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CLINICAL MEDICINE AND SURGERY



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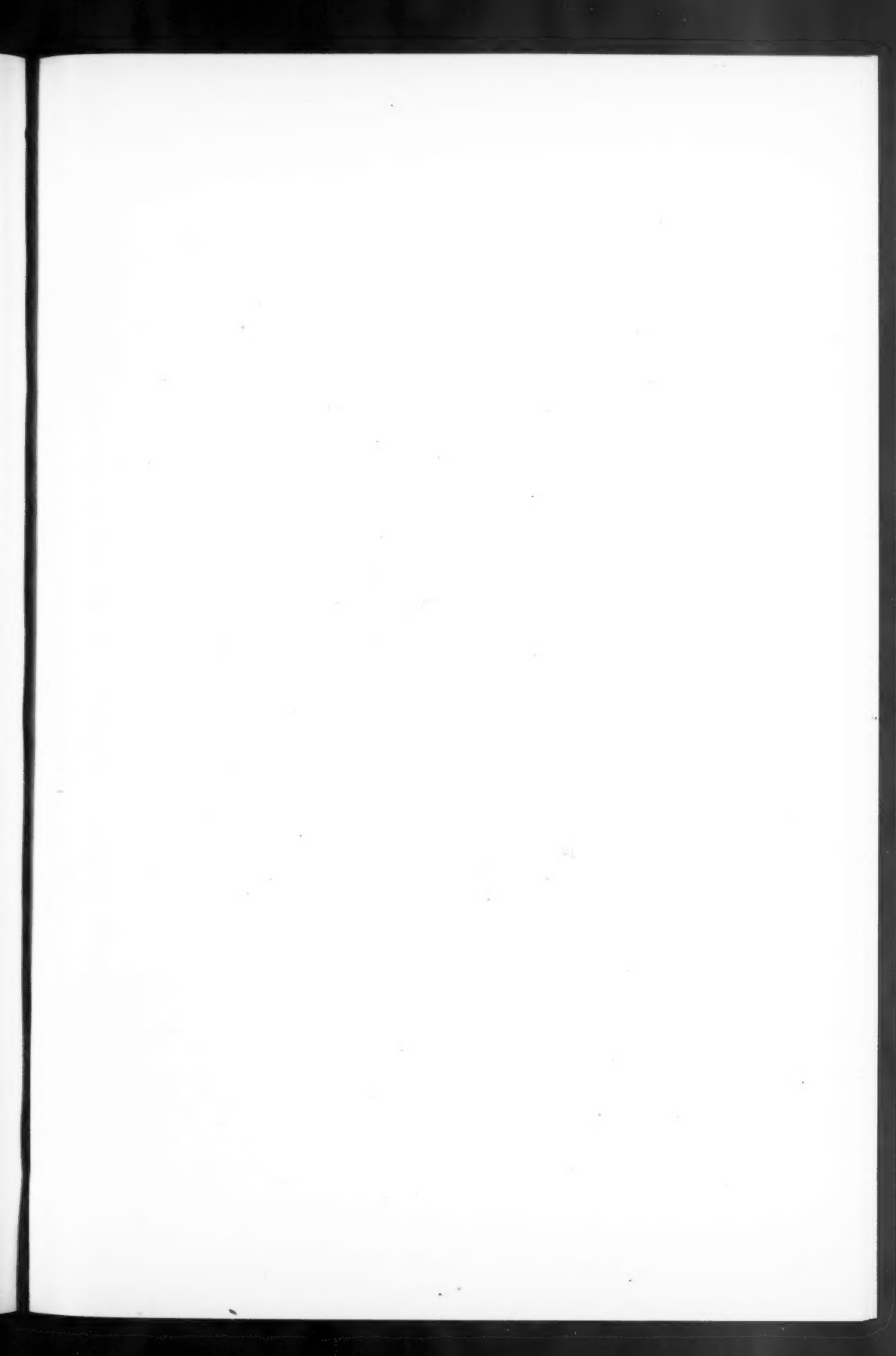
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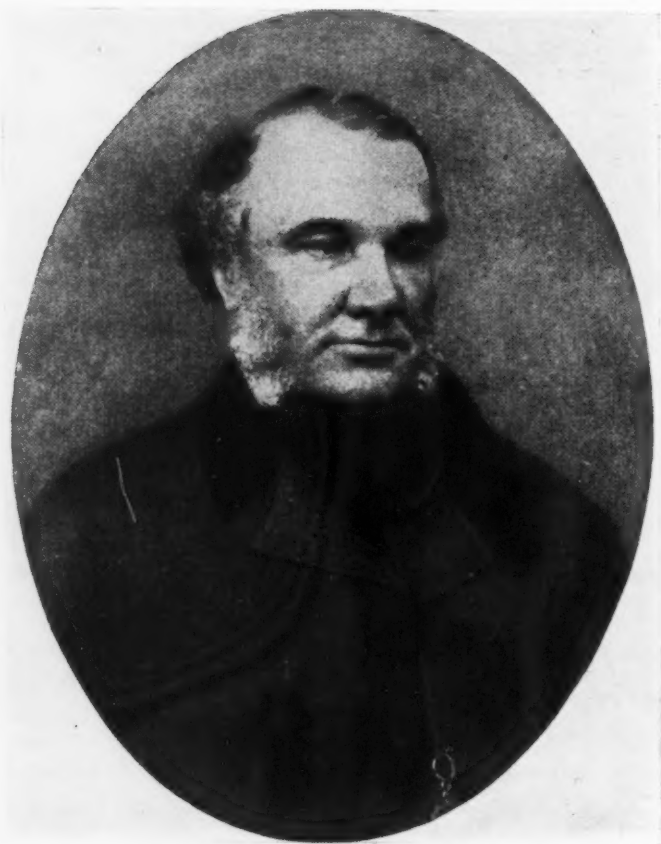
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THOMAS ADDISON, M.D., L.R.C.P.

CLINICAL MEDICINE AND SURGERY

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VOL. 42

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EDITORIAL

Thomas Addison

THE scientific research worker, even though his studies may be largely or wholly clinical, is by no means always a successful practitioner, because this latter type of success is founded upon the art, rather than the science, of medicine, and calls for a genuine interest in human beings who have diseases, rather than entirely in the diseases which have them.

A striking example of this truism is found in the life of Thomas Addison, who was Richard Bright's colleague at Guy's Hospital and brought great honor upon that institution as one of the most brilliant students and teachers of the early Nineteenth Century, but who would have starved if he had had to depend upon his practice for a living.

Addison was born, in 1793, at Long Benton, near Newcastle, England, the son of a Cumberland yeoman, and attended a country school at Newcastle-on-Tyne, where he proved himself such a remarkable Latin student that he took lecture notes in that language.

Then he went to Edinburgh to study medicine and was graduated by that great University in 1815, proceeding to London to begin his practice, in which he was singularly unsuccessful and required help from his father to keep going. An appointment as house surgeon at Locke Hospital kept his head above water, however, and gave him an opportunity to continue his studies of syphilis, which was the subject of his thesis for the degree of Doctor of Medicine. In 1819 he was

licensed by the College of Physicians and became a pupil at Guy's Hospital, with which institution he was associated during the rest of his life, solely because of his exceptional ability, as he had neither financial, social nor political prestige to back him.

In 1824 he was made assistant physician of the Hospital and three years later began to lecture on materia medica. As a lecturer he was highly popular and his fame spread, so that this work brought him an income of the equivalent of \$3,000 or \$4,000 a year. In 1837 he was appointed full physician and lecturer, in collaboration with Dr. Richard Bright.

Addison's work as a physician was characterized by an insatiable desire to seek out the basic causes of a patient's ailment, and he felt obliged to pursue a problem to the very end, for fear he would overlook some detail that might be a decisive factor in the disease. He followed his patients to the autopsy table whenever he could, in order to compare the postmortem findings with his antemortem diagnosis—a thing which many physicians rather dread to do. When he had traced the disease process to its final lair, however, he tended to lose interest in the patient and frequently forgot to prescribe for him.

The chief fame of this tireless student and brilliant teacher rests, today, upon his description, in 1849, of a disease of the suprarenal capsules (*melasma suprarenale*), which Trousseau, in 1851, first called "Addison's

Disease," by which name we still know it; though men who know their medical history still call pernicious anemia "Addison's anemia," because he first described it in 1839 (twenty years before Biermer); and "Addison's pill," of calomel, digitalis and squills, is still used to treat hepatic dropsy in syphilis.

Besides these matters, to which his name is attached, Addison, in collaboration with John Morgan, wrote the first book in English on the action of poisons on the living body (1829); was the first man to use static electricity in the treatment of spasmodic diseases (1837); wrote one of the earliest accurate monographs on pneumonia (1837) and a good account of appendicitis (1839); and, in 1851, with Sir William Gull, described the disease we now know as xanthoma and also "Addison's Keloid,"—a circumscribed form of scleroderma.

Partly because of his humble beginnings, and partly because he was innately shy and sensitive, Addison developed what our psychiatrists now call a "defense reaction," and became cold, haughty and aloof in his demeanor. This, in combination with his swarthy complexion and stern and melancholy air, did not, as may well be supposed, endear him to his patients; but it threw a glamor of mystery around him which, in the lecture room, caused his students to regard him with awe and esteem, even before they were captivated by the brilliancy of the mind which was at work behind those dark and impassive features.

His epoch-making monograph on the suprarenal capsules was regarded as a scientific curiosity by his contemporaries; but, with the physiologic studies of Claude Bernard, it laid the foundations for modern endocrinology, especially the pluriglandular syndromes.

In the spring of 1860, Addison's health had so failed that he had to give up his work at Guy's, and on June 29, of that year, he passed to his rest, at the age of 68 years. A marble tablet to the memory of this remarkable clinician and teacher, but unsuccessful practitioner, adorns the chapel of the hospital upon which his work conferred such distinction.

We disdain and hate from lack of self-comprehension and we understand in proportion as we study ourselves.
—RAMÓN Y CAJAL.

Preventing Surgery

OF all the accomplishments of the medical profession during the past half-century, the thing of which we are most justly proud

is that, by preventive measures, we have made typhoid, typhus and yellow fever so rare that medical students will make quite an effort to see a case; while smallpox, diphtheria and several other diseases will soon be added to that glorious list.

Perhaps it is time that, without letting up at all in our efforts to reduce preventable diseases, we should give some thought to our professional responsibility for the reduction of preventable accidents and the surgical procedures which they frequently entail.

Some millions of school children are now crossing streets several times a day, all over this fair land. Along those streets millions of automobiles are passing, some of which are driven by people who are drunk, half blind or are irresponsible nitwits. These menaces to the public safety and welfare kill or maim more people every year than we lost in the World War.

Weaning a fool from his folly is a rather discouraging undertaking; but we can do something toward teaching the children how to take care of themselves, and toward urging our legislatures to pass automotive traffic laws which will curb, if not entirely stop, the activities of the murderers who infest our highways and byways. Like all types of preventive medicine and surgery, the remedy is education.

If any of our readers think of effective ways in which doctors can help in reducing the appalling slaughter of the innocent, ignorant or careless ones, we will be glad to give their ideas wide publicity.

Diplomacy is the art of letting somebody else have your way.

Something for Nothing

OF course, the statement just above is false.

We never get anything whatever without paying for it in one way or another; but the matter of which we speak will give such large returns for such a small payment, that the statement is *almost* true—if there can be degrees in truth.

Every month the manufacturers of high-grade drugs and appliances for the use of physicians are preparing and printing reports, brochures and, not infrequently, good-sized books, which are of real and permanent value to every physician who is in clinical practice.

Probably some of this important literature comes to your desk without any effort whatever on your part; and perhaps, for that very reason, you consider it valueless and throw it

away. That is chucking money in the trash-can.

Here is a service. Every month we publish a numbered list of the important items you can't afford to miss, just back of the *Medical News*, of which it is really a part. There is a coupon with it. Sit down, now, with pen (or pencil) in hand, look over the list, jot down the numbers of the booklets or samples you want and write your name and address at the bottom, checking your professional status in the proper square (time spent, from five to fifteen minutes). Put the coupon in an envelope and mail it to "C.M.&S." (cash expenditure, three cents). In a week or two you will receive all the things you have asked for (several dollars' worth, for certain), without spending another minute or penny.

Of course, part of the payment for this service, which is at your disposal *every month*, is what you have paid (or will pay in a few days) for your subscription to "C.M.&S.", but that is an *investment*, which you have already made, and this service is a *part of your dividends* on that investment. Why not collect them regularly? They are so nearly "something for nothing" that the distinction doesn't matter.

You cannot steal second and keep your foot on first base.

New Red Cross Projects

FOR years everybody has known the Red Cross as a saver of lives and minimizer of suffering in times of war, flood, pestilence and other disasters. Since its foundation it has always done something to help in such emergencies, and in recent years seems to have done about all that is doable.

Now, according to its Chairman, Rear-Admiral Cary T. Grayson, this great humanitarian organization is about to embark upon a project for doing something to help in connection with that terrible *chronic* disaster which is with us every week in the year—the shocking (and largely avoidable) loss of life, limb and usefulness resulting from automobile accidents.

Even this far-seeing group has not yet found a way to inject brains into the brainless or civic righteousness into a savage, but will attempt to ameliorate, to some degree, the results of criminal negligence and inexcusable folly.

Many of the maiming accidents (of course, there is nothing to be done for the dead but bury them) occur far from hospitals or even from competent medical assistance, so the Red Cross purposes to establish, at isolated filling stations, garages and country stores, first-aid stations where a reasonable supply of various kinds of dressings for wounds will always be available and where someone who is competent to render such aid (a nurse, scout-master or boy scout or some other trained person) will always be on hand or within reach. The idea is, not to supplant the doctor, but to get the mangled victim to the nearest physician or hospital in as good conditions as is possible.

The annual Red Cross roll-call is about to begin, and here is another sound reason why every solvent citizen should answer it with a dollar (or as much more as one can spare). None of us knows when we may be the next one with a broken thigh or a smashed pelvis, whose life may be saved by the timely assistance which we will thus help to provide.

The most powerful agency in the world is a valid idea.—H. A. OVERSTREET.

X-Rays in Infections

INFECTIONS of various kinds make up such a large part of the work of all physicians engaged in clinical practice that constant efforts have been and continually are being made to control these ubiquitous causes of illness.

Great strides in this direction have been made since considerable numbers of researchers and clinicians made up their minds to accept the dictum of Metchnikoff—that the leukocytes are the only constantly demonstrable factor in resistance and immunity—and set out to discover and apply more and more effective means for increasing the numbers and activity of these vitally necessary defensive cells.

In the course of these clinical and laboratory studies it was found that certain foreign proteins and heavy metals (especially in organic combinations or colloidal forms), when injected parenterally, are powerful leukocyte stimulators. Perhaps the most active substance for use in this way is hydrochloric acid, as promulgated by Ferguson, of Birmingham. All of these medicaments are steadily

coming into wider and more purposeful use, particularly in the treatment of the pyogenic and other endotoxic infections.

But these researches, besides giving us some new methods of treatment, put a scientific basis under some of the old ones which have been employed empirically, with success, for years or centuries. Alcohol increases the leukocytes, and so does quinine, which perhaps explains why these old-fashioned remedies were and are so universally popular for the treatment of incipient colds. The application of heat to the body increases the number and activity of the phagocytes, and this biologic reaction may be an important factor, along with the physical and physiologic effects, in the favorable responses which follow the use of diathermy, phototherapy and other forms of heat treatment.

In the *Southern Medical Journal* for September, 1935, Dr. Ralph E. Myers, of Oklahoma City, speaks very enthusiastically about the results of the use of x-rays in the treatment of infections, especially those of the suppurative and other endotoxic types; but he lays no stress upon the fact that, when x-rays are

applied to the human body, leukocytosis results, perhaps due to some direct effect of the rays, and perhaps to the liberation into the blood stream of certain foreign proteins, as the radio-sensitive cells destroyed by these rays are broken up.

It would be extremely interesting if some open-minded radiologist, who has considerable clinical material at his disposal, would work on a series of cases of furuncles, carbuncles and other conditions which are especially amenable to treatment with x-rays, treating several comparable cases with parenteral injections of foreign proteins or 1:1,000 hydrochloric acid, and several others with colloidal heavy metal, as controls, and make careful records of the comparative results.

We are eager to encourage the radiologists in every reasonable way; but if equal or nearly equal results in the treatment of infec-

tions can be obtained by a few intramuscular or intravenous injections, as compared with the effects of x-rays in similar conditions, the injections would be far preferable, from the patient's standpoint, in the vast majority of cases.

NEXT MONTH

Dr. Frederick Harvey, F.A.C.S., of Chicago, will present, in detail and with many illustrations, the technic of the treatment of hemorrhoids with the galvanic current.

Dr. Otto Leyton, F.R.C.P., of London, Eng., will discuss dietetic glycosuria in a highly instructive and pleasing manner.

Dr. George B. Lake, of Waukegan, Ill., will give a report of the meeting of the Mississippi Valley Medical Society, with abstracts of several of the papers read.

COMING SOON

"Antihormones or the Inhibiting Factor," by Herman J. Achard, M.D., Glendale, Calif.

"Further Studies on Colonic Fermentation," by D. C. Ragland, M.D., Los Angeles, Calif.

LEADING ARTICLES

Treatment of Menstrual Disturbances with Sex-Stimulating Hormones from the Anterior Pituitary

By Arthur E. Meyer, Ph.D., Rockford, Ill.

THE basic theory concerning the mechanism of the female sex cycle is fairly well established today, although many special questions still have to be settled.

It is accepted that the anterior pituitary gland secretes two hormones: one principle which causes growth and maturation of the follicle and another which causes formation of the corpus luteum; that the growing follicle produces the substance commonly called female sex hormone, estrin or folliculin; that the corpus luteum, in addition, secretes another hormone called corporin or progestin.

While estrin causes proliferation of the uterine mucosa, the subsequent action of corporin produces the progestational changes necessary for nidation of the ovum. Since every stage of endometrial development corresponds to a certain level of hormonal concentration, a drop in the latter causes a breakdown of the endometrial structure—a process called menstruation.

Although the normal function seems to be rather simple, disturbances are generally of a complex character and cannot always be accounted for on the basis of such theoretical reasoning. Deviation from the normal might be brought on by abnormalities at any level of the mechanism: in the pituitary, the ovary, the uterus, the vagina, etc. They do not necessarily need to be of an endocrine nature. General bodily influences of nutritional and constitutional character interfere; the mental zone has its decided influence also.

If one wants to approach the problem clinically, it must be considered that the diagnosis of an endocrine deficiency cannot be established with certainty in a large percentage of cases, for which reason one must be prepared for a corresponding number of failures due to treatment of unselected cases.

Endocrine amenorrhea, when caused by pituitary deficiency, should be accessible to treatment with pituitary sex hormone. Such treatment might also be of benefit when the ovary is unresponsive for some reason, even with normal pituitary function. While it

seems logical to apply the follicle-stimulating hormone in the first half of the intermenstrual period, until ovulation is obtained, and afterwards apply the luteinizing substance to form corpora lutea, this procedure has not been applicable on account of lack of these two factors purified separately; and it does not even seem to be desired. The new work of Fevold and Hisaw (*Am. J. Physiol.*, 109:663, 1934) showed that both factors have an alternating function. While the follicle-stimulating hormone (FSH) produces primary follicles, the luteinizing hormone (LH) acts on the primary follicles to produce antra; then the FSH causes further development into mature follicles, and finally the LH produces corpora lutea.

The production of uterine bleedings of a moderate quantity and duration does not prove that a real menstruation is taking place. As Emil Novak ("Application of Endocrinology to Gynecological Problems," "Transactions of the Congress of American Physicians and Surgeons," 15th session, p. 69) points out, "Menstrual bleeding is a phenomenon produced by folliculin withdrawal." As explained, a certain development of the endometrium corresponds to a certain hormonal level. A drop in the concentration will cause destruction of the proliferated endometrium, disregarding to what degree it has been built up. True menstruation can occur only when the endometrium has been developed to its final stage. Whether or not an incomplete, or perhaps unbalanced, development of the endometrium is a cause for dysmenorrhea, polymenorrhea, etc., is an undecided question. It would suggest that there is an unbalance between estrin and corporin, each being either decreased, increased or absent, and such unbalance would probably be derived from an unbalance in the pituitary secretion.

Emil Novak and S. R. M. Reynolds ("The Cause of Primary Dysmenorrhea," *J. A. M. A.*, 99:1466-71, 1932) have shown that the uterus is at rest under the influence of corporin, and motile when estrin acts alone. They conclude

that dysmenorrhea might be due to an unusually quick disappearance of the corpus luteum hormone, leaving the uterus irritated under the pure estrin action.

It is logical that therapy should try to bring about a proper balance between both hormone factors. One might think of determining the urinary elimination in the patient, to measure the degree of deficiency; but hardly any success can be expected from such a rather complicated procedure. Kurzrok, Kirkman and Creelman (*A. J. Obst. & Gyn.*, 28:319, 1934) have shown that the elimination of the pituitary-like hormone in women during the sex cycle is far from a simple and easily applicable rule. Frank, Goldberg and Spielman ("Present Endocrine Diagnosis and Therapy," *J. A. M. A.*, 103:393-402, 1934) find a considerable variation in the renal threshold for hormonal elimination. Finally, the identity of urinary elimination with pituitary hormone has been disproved, and even the provenience of the latter from the former is at least questionable. For such reasons, it cannot be considered as possible to balance a hormone deficiency by therapy in a calculating manner.

In cases of amenorrhea we might distinguish between two types: First, absence of FSH, in which the ovary does not contain any developing or developed follicles. An artificial supply of FSH will cause development of follicles with increasing proliferation of the endometrium. Simultaneous or subsequent administration of LH will produce a corpus luteum and a change in the uterus corresponding to the premenstrual stage. Cessation of the hormone supply must automatically cause a drop in the hormone level, and menstruation will ensue. If there should be a certain constant supply of FSH which maintains the endometrium at a certain limited level of development, the procedure is quite similar. Hormone supply favors further development and forces the cycle which had so far been missing.

Hormone therapy represents essentially a substitution therapy. When a true deficiency in pituitary hormone exists, it must be expected that symptoms will reappear after discontinuation of treatment, even though the latter had proved to be successful. The practical value of a single menstrual period induced in a patient with amenorrhea would be insignificant. Most patients would not agree to subject themselves to a monthly treatment with injections. It would be different in cases of sterility, when ovulation, with subsequent pregnancy, could be induced. Obviously, however, there are many cases in which, for some reason or other, the mechanism seems to lack impulse, and a certain stimulation might bring it back to normal for an indefinite, or at least a prolonged period of time.

Pituitary Hormones and Sterility

The cure of a slight hypopituitarism by pituitary hormone brought into the system artificially might be explained in two opposite ways: (1) It either stimulates the patient's own hypophysis; or (2) gives the gland a period of rest and an opportunity for recovery. Such optimism concerning pituitary hormone, based on theoretical speculation, is at least justified to a certain degree. Treatment with pituitary extract presents a decided advantage over treatment with estrin, as the latter has no influence on the ovary, only a partial influence on the uterus, and a depressing action on the pituitary (R. K. Meyer, S. L. Leonard, F. L. Hisaw and S. J. Martin, "The Influence of Estrin on the Gonad-Stimulating Complex of the Anterior Pituitary in Castrated Male and Female Rats," *Endocrinology*, 16:655, 1932). Such a depressing effect might even be of longer duration and have an unfavorable influence on the following cycle.

Dysmenorrhea cases are frequently attributed to bleeding from a follicular endometrium, which means that the follicle has developed but has not been transformed into a corpus luteum. In such cases, a supply of luteinizer is all that would be necessary to bring about a normal menstruation. Similar conditions are attributed to the presence of a follicular cyst. Theoretically it should be possible, by proper pituitary hormone treatment, to produce corpora lutea and have the cyst reabsorbed. Unfortunately, we have no means of investigating such processes in the human being. In cattle, however, it has been found that ovarian cysts could be made to disappear by proper hormone treatment.

One of the most encouraging fields in pituitary hormone treatment is a certain type of sterility. Such patients show an absolutely normal sex cycle, show no abnormalities in the genitalia, and yet they do not conceive. It seems obvious that the follicles are developed, but are not brought to sufficient maturation and rupture. Treatment with pituitary hormone during the first half of the intermenstrual period will frequently induce ovulation. The proper time for treatment is generally the first week after cessation of menstruation, and injections should be divided over a number of days, because hormone elimination is usually rapid after a single large dose has been given. Treatment during the second half of the sex cycle, which means after ovulation, seems to be less logical unless a pure luteinizer should be administered. Luteinization in animals has been obtained with a single intravenous injection shortly before ovulation time, but there is not yet sufficient clinical experience available by this method to warrant recommending it for general use.

In the selection of material for treatment,

true pituitary products are generally preferable to urinary preparations. The latter, if made from pregnancy urine, contain essentially the luteinizing factor and can be of use only in special types of cases where luteinization is absent. Pituitary products contain both factors, and are available in sufficiently purified form to be free from other pituitary hormones. Crude pituitary extracts are not recommendable if an effect on the sex sphere alone is desired, because such preparations contain other factors, and the influence they would have on the thyroid and other glands might prevail.

A few words can be said about dosage. It has been shown that continued administration of sex stimulating hormones becomes less and less effective, and that the ovary turns unresponsive after prolonged treatment. Even very small doses given for many weeks will produce such results. On the other hand, very large doses might cause overstimulated, cystic ovaries.

Treatment should be started with low doses and continued for about six days. If no results are obtained, treatment can be repeated with increased doses after a period of four weeks. In this way it might be possible to determine the effective dose for the patient and, by leaving sufficient intervals between periods of treatment, avoid the possibility of the ovary becoming unresponsive.

Treatment as outlined is based principally on theoretical reasoning, but more and more clinical evidence is accumulating on this subject, and is found to be in general agreement with such reasoning. If one considers that the diagnosis is frequently not established beyond doubt, it can even be said that pituitary treatment gives a larger percentage of favorable results than many other established medical methods which have been in use for many years.

1306 Post Ave.

Primary Ovarian Carcinoma Presenting Pulmonary Symptoms A Diagnostic Error

By Herbert J. Simon, A.B., M.D., New York City

Assistant-adjunct Gynecologist and Obstetrician, Sydenham Hosp.

IT was felt that the following case was worthy of the attention of the medical profession for the following reasons: First, it calls attention to the fact that vaginal examination is never to be omitted, no matter how irrelevant the chief complaint and the pelvis may seem; second, primary carcinoma of the ovary initially presenting pulmonary symptoms as a result of metastasis to the lung, is in itself interesting enough to warrant publication; and third, it is desirable to call attention to the fact that a diagnosis of malignant disease may be made from thoracic or abdominal fluid by a microscopic study of the sediment obtained by centrifuging the fluid aspirated^{1, 2}.

Case Report

Mrs. B. B., a 43-year-old white female, married, born in Poland, was admitted to the Sydenham Hospital Nov. 16, 1931. The chief complaints were: pain in the right chest and a dry cough for two months, and upper abdominal discomfort for 5 days.

The patient stated that the onset of the pain in the chest occurred suddenly 2 months

ago and was associated with cough, slight fever, pains in the back and slight chilliness, all of which lasted about two days. However, the cough persisted to the time of admission. It was non-productive in character and noticed mostly in the morning on rising. The pain had recently "settled" in the right axillary region; it was steady and not affected by respiration. There was a loss in weight of 14 pounds in the past 6 weeks. There were no night sweats nor was there an evening rise in temperature. The appetite was poor. The patient complained of nausea, but she did not vomit. For the past 5 days she had had a sense of discomfort across the upper abdomen. The family history was negative.

Sex History: Pregnant six times, with five normal births and one miscarriage at 4 months. Menses began at 13 years, were of the 28-day type and lasted 2 to 4 days. The last menstrual period was Nov. 9, 1931.

Previous History: The patient had been operated upon for "blood poisoning" of the foot 4 years ago. She complained of frequent head colds and had a "cold on her chest" that kept her in bed for 8 days 9 months ago.

(N. B.: The patient's physician stated that the onset of the present illness was insidious, and not as given in the history.)

The physical examination revealed a well-developed white female, not acutely ill. Tem-

1.—Mandelbaum, F.S.: *J. Lab. & Clin. Med.*, 2:580, 1917.

2.—Eisenberg, et al.: *J. Lab. & Clin. Med.*, 19:315, 1933.

perature, 99.6° F.; pulse, 104; respiration, 24; blood pressure, 120/82. The head and neck were normal. The chest was symmetrical, but

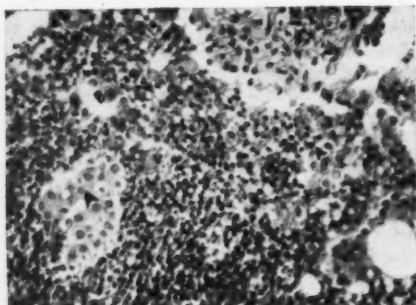


Fig 1.—Photomicrograph of Fluid from Chest, showing: A. Mitoses; B. Double nuclei.

the expansion on the right was diminished. The left lung was resonant throughout and showed exaggerated breath sounds. On the right side, the tactile fremitus was absent except at the apex and just below it, but at the latter area it was accentuated. Percussion on the right showed dullness to flatness from the level of the third rib downward, anteriorly, and from below the level of the spine of the scapula downward, posteriorly. The breath sounds were distant or absent in this area and in localized spots the breathing was bronchial in character. There were a few scattered crepitant râles at the right base. The cardiac apex was in the sixth interspace, just inside the anterior axillary line. There was some roughening of the first sound at the apex. The abdomen was negative—no masses were felt. There were no enlarged lymph glands. The extremities were normal, except that the finger nails showed increased curvature.

The diagnosis, from the history and physical examination, was: *Right pleuritic effusion, of neoplastic or tuberculous origin.*

Laboratory Findings: The Wassermann and Kahn tests and the urine analysis were negative. The blood-sugar and blood-urea were normal. The electrocardiogram was essentially normal, except for low voltage in T₁ and negative T₂. Examination of the stool failed to show the presence of occult blood, ova or parasites. On admission the patient's blood count was normal, except for a moderate anemia. The leukocyte count, at that time, was 10,500. About 10 days later it had risen to 13,050, with a normal differential count, except that there were 4 percent eosinophiles. Again 10 days later, there were 15,200 leukocytes with a normal differential count, except that the eosinophiles were then 7 percent.

The fundi, examined by the ophthalmologist shortly after admission, were normal.

During the 22 days of the patient's hospitalization, her chest was aspirated 5 times, and amounts of fluid varying from 750 to 1500 cc. were withdrawn at each aspiration. On one or two occasions some of the fluid

was replaced with air, with the idea of making the roentgenologic diagnosis easier. The fluid obtained by the first few aspirations was cloudy and brownish-yellow in color. At the last aspiration, however, the fluid was distinctly sanguineous, probably due to trauma. An exploratory puncture of the lung was attempted, and the definite resistance of a tumor seemed to be encountered. The pathologist's report on examination of the sediment of the fluid was: "*Malignant epithelial tumor (possible pulmonary carcinoma).*" (See Fig 1.)

Serial roentgenograms showed varying amounts of air and fluid in the right chest. After the pleural cavity had been well emptied of fluid, the roentgenologist stated: "A dense, homogeneous shadow is seen in the right middle lobe, extending from the periphery to the right heart border."

A diagnosis of malignant disease of the chest having been established as a result of the study of the fluid, deep roentgen-ray therapy to the chest was begun while the patient was in the hospital, and continued through the out-patient department. The patient was discharged, in fair condition, Dec. 8, 1931.

She was given 14 deep x-ray treatments from Dec. 2, 1931, to March 2, 1932. During this time her chest was aspirated once and she complained constantly of cough and pain in the right chest.

On March 13, 1932, the patient was examined vaginally, in the hospital "Follow-up Clinic," by two physicians who had never before seen her. They found a sharply retroflexed uterus with a short, eroded cervix. Most of the fundus of the uterus was lost in a mass that was about 10 cm. in diameter. The mass moved with the cervix, but the motion was restricted, due apparently to some induration.

The patient was readmitted to the hospital on the following day. On admission the blood count showed only a slight anemia, the leukocytes and eosinophiles having returned to normal. The urine was negative.

On March 15, 1932, the preoperative diagnosis being ovarian malignant disease with thoracic metastases, the patient was laparotomized by Dr. Alfred Hellman, under spinal anesthesia. A large tumor of the left ovary was found and this, together with the tube, was easily removed. A right salpingo-oophorectomy was also done.

Four days after the operation, the patient was given a transfusion of 500 cc. of whole blood and then made an uneventful operative recovery, the wound having healed by primary union. She was discharged on her 14th postoperative day, in fair condition.

The pathologist's report was: Bilateral pseudo-mucinous cyst-adenocarcinoma of the ovary (see Fig. 2). A small area of mucous glands, which showed beginning malignant changes, was found in the apparently normal left ovary.

The deep roentgen-ray therapy was continued through the out-patient department, but the patient continued to go down hill.

She was readmitted to the hospital on May

5, 1932, and 1200 cc. of dark-brown fluid was aspirated from her chest. A roentgenogram showed a dense shadow at the right base, extending from the sixth rib down to the diaphragm.

The patient was last seen at the hospital June 12, 1932. She then stated that she was not feeling at all well and complained of a constant pain in the right shoulder region. From this date on she was observed by her private physician, who reported that she expired in September, 1933, in a cachectic state, with generalized carcinomatosis. No autopsy was obtained.

Comment

I consider the above case history eloquent, and shall devote a few words to the discussion of some of the more important points.

The patient was admitted to the medical service of the Sydenham Hospital while I was the house physician. It may therefore be fairly asked of me, why I did not see to it that a vaginal examination was done. I only can reply by calling the reader's attention to the fact that the patient presented no complaints whatsoever, referable to her genito-urinary system. From her history and physical examination, as well as from the laboratory findings, one felt safe in assuming that the primary pathosis was in the chest.

In further mitigation of my fault, I take the liberty of citing two cases I saw autopsied in the Pathological Institute in Vienna, shortly after I had made the error related above. Both of these cases came from a medical clinic of the University; in both the clinical diagnosis was primary cancer of the chest; in neither had a vaginal examination been made; and in both, at necropsy, a primary carcinoma of the ovary was found. In these two cases, as in my own, the presenting complaints were so far away from the pelvis that a vaginal examination seemed unnecessary. Perhaps this was a most unfortunate omission for the patient; certainly a most embarrassing oversight for the physician.

It may also be fairly asked why a laparotomy was performed to remove a primary carcinoma, when extensive distant metastases were known to exist. In answer to this I may say that, in 1920, Seitz and Wintz³ showed that metastatic ovarian carcinomas are increased in their radiosensitivity as a result of eradication of the primary focus.

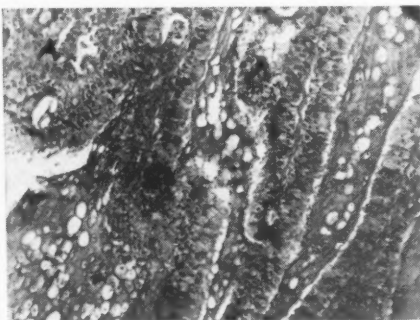


Fig. 2.—Photomicrograph of Section from the Ovarian Tumor, showing the resemblance at A, to cells seen in the Chest Fluid.

Summary

A case of primary carcinoma of the ovary is reported.

The presenting symptoms were thoracic, as a result of pulmonary metastases.

Because the patient was not examined vaginally during her initial period of hospitalization, there was an error in diagnosis.

Malignant disease was established by a microscopic study of the sediment of the fluid aspirated from the chest. At laparotomy the ovarian carcinoma was found.

300 Central Park West.

3.—Seitz and Wintz: *Strahlentherapie*, Sonderband V, 1920.

EVERYONE PAYS

No more cruel delusion can be fastened upon a nation than the idea that the rich can be made to pay the bill incurred by governmental extravagance, while the poor get a free ride. It is a theory which conflicts with the experience of all history and ordinary common sense. Demagogues of every generation have advocated it, but only the unintelligent ones have believed in it.—FRANK R. KENT, in *Baltimore Sun*.

EDUCATION

True education is not intended to turn out machines, but to turn out people who have initiative; who have the full capacity to think for themselves and thereby express themselves spontaneously.—J. KRISHNAMURTI, in *"The Purpose of Education."*

Physical Rehabilitation of the Middle-Aged

By Geo. A. Skinner, M.D., Omaha, Neb.

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IN the discussion on intensive training, in this magazine, some of my suggestions seem to have awakened a responsive chord among the doctors, either from something they found therein that fitted themselves, or for some of their patients, and our editor has invited me to express myself further, especially in relation to a method for practical use in making this attempt at a physical come-back. This I am glad to do, but it is to be understood that the discussion to follow is based, first, upon my own experience, and second, upon observations of similar efforts on the part of others. I am not suggesting them as a panacea for the physically broken, nor as an easy and short-cut method; but to those who are willing to undergo the necessary severe self-discipline and to keep it up as a lifelong routine, I wish to say, by way of encouragement, that I have seen results that, to me, much more than justify the work and self-denials necessary.

Either for one's self or one's patients, there is no use of undertaking such a physical transformation, unless one is fully conversant with its difficulties and realizes the time necessary and that often a fairly complete change of habits must be made. To those who are practicing medicine, and see the results of degenerated muscles, displaced organs, masses of adipose tissue as deadly loads on the heart, it must be apparent that changes back to relatively normal come only as the result of a mighty and continued effort. There is no question of "diet" for a few weeks, but the entire dietary habits may have to be thoroughly overhauled. Likewise it is of no value to plan some more or less monotonous "exercises" for a time, and then revert to the old inactive life. Exercise must be as much a part of one's routine as one's meals or sleep. Only when one is thoroughly imbued with the will to recover as much of youthful elasticity as possible, and to pay the price therefor, is there any hope of a result. But again I say that this result is possible and, if there is a better investment of time, I have yet to find it.

Granted then, that the person in question has made the decision and is willing to pay the price for a chance at a longer and fuller life, how will we go about instructing him or ourselves for the routine necessary?

As the plan presented has been largely worked out on myself through many years, and from this personal experience I have advised others, pardon is asked for personal references when it is necessary to clarify any point. I do not wish it thought that I am an

ascetic in any way, but simply that I regard vigorous physical health as one of life's greatest gifts and have been and am willing to pay any price within my power to maintain it. Therefore it is probable that there will be much disagreement with many of the postulates presented. This may open up some interesting discussions. However, my results have been largely attained by close attention to the routine suggested, and it has the advantage of having succeeded in many cases.

I would strongly emphasize, to every candidate for any program of body rebuilding or changing, that, first, he must have a very careful and complete physical examination, to determine what may be safely done. It would obviously be dangerous to attempt such a regime if there are pathologic changes in the heart that are at all advanced, or if there is any other serious organic disease. But it is astonishing how much can be done for such patients, if a proper regime is carefully supervised and slowly developed. In my experience, moderate elevations of blood pressure need not prevent such training, in moderation, and often the beneficial results are much beyond expectations. Cases having some physical defects, that may not reasonably be expected to improve much, should undertake a routine calculated to improve the physical wellbeing, only under the direction of a competent physician.

Assuming that, while the body may be somewhat degenerated and below par in a number of ways, no serious organic lesions have been found, we will start on our modified course of living. The changes may be made as rapidly as the person can readjust himself, but as this is to be a life job, there is no hurry about it.

To most people, men in particular, perhaps the most difficult changes to make are two: The first, to fit the food intake to the body needs, instead of the ordinary desires for food; and the second, to adopt some scheme of regular physical exercise. Once these two correct habits are established, the rest is relatively easy.

Eating Habits

To the average person, the appetite is not a safe guide, unless the person has had a considerable training in food values. Most of us eat what we think we need, and this is usually based upon the feeling of the stomach—when it has all that can be crowded into it, we usually feel that we have had enough. Sometimes this complete filling is repeated three, four or even five times daily, regardless of the amount of energy expended by the

body or the external conditions. Hence it is not difficult to understand why such a large proportion of our middle-aged population is considerably overweight. It will greatly surprise many to know how really little food is required to maintain life and vigorous health.

A rather startling report has recently been published by a life insurance company, relative to overweight and the great increase in diabetes. This report states that, at ages of 45 years and past, 60 percent of all males were at least 20 percent overweight before they were attacked by diabetes. In women the percentage is higher—66 percent are at least 20 percent, and 50 percent are 30 percent overweight. The author says, "As we have seen, two sets of factors are involved: On the one hand, more food materials are ingested and, on the other hand, less of the individual's energy is called for in the day's work to burn it up. The net result is over-feeding, relative if not absolute, and in the long run an increase in the number of people who are overweight or even obese. It is among such people that diabetes takes its greatest toll." ("Recent Trends in Diabetes Mortality," by Louis I. Dublin, Ph.D., Metropolitan Life Insurance Co., N. Y., in *Military Surgeon*, August, 1935.) This is another and seriously increasing danger awaiting those who habitually overeat.

Eating is largely a matter of habit, and should be adapted to the needs of the body rather than to its pleasure, social customs, convenience of the cook and many other considerations that are usually given preference. There is no particular reason for just three meals a day, except in youth, nor for fixed times of eating. When these things have become so habitual that one is uncomfortable if his meal is ten minutes late, either there is something wrong physically, or it is wise to change the habits. Neither is there any damage to one if one misses one or several meals. Often it is of great benefit, but it is usually terrible on the dispositions of most of us. However, I have, on many occasions, gone without food for two days with no inconvenience, and in times of stress, where physical alertness might be the price of life, no food has been taken until the crisis was past.

Personally I prefer to make physical exertions on an empty stomach, and have found it much easier and less fatiguing. On long-continued exertions, such as forced marches, a very light breakfast, and nothing else but small quantities of water, as really required, has been taken until late evening, and there has never been the slightest physical inconvenience. Regularity of food taking has been strongly advised, and in some cases may be necessary, but my own habit has been to be irregular and to establish no habits that were

a nuisance. It has been very satisfactory for many years.

The scales should be the guide to the amount of food taken. If the weight is above normal, too much food has been eaten for the needs of the body. If the body is underweight, the quality, as well as the quantity, of food should be investigated and revised. While tables of body weights are not infallible, they have been prepared as a result of many thousands of observations and are a reasonably safe standard. Some persons with peculiar characteristics may depart from the average, but if one keeps one's weight normal for the height one will not go far wrong.

"Family characteristic" is an excuse on which many people base their overweight. Many families are heavy, but largely because the same habits of over-indulgence are general. In one such case, an officer was considerably overweight, but assured me that he had "always been that way" and that the members of his family were all heavy. It was suggested that he could probably start a change in the family characteristic, and he agreed to try. He was accustomed to a good deal of regular exercise, so it was only necessary to change his dietary habits to remove some thirty pounds. He was highly satisfied with the results and has maintained the correction through many years.

In my opinion, there is no basis for a change of weight with age, after growth has ceased. Such changes are more or less usual, and the average person tends to become heavier as he grows older, largely because of the habit of constant overeating and lessening exercise. He does not require as much fuel, yet he keeps on firing his boiler as though he were under the greatest stress possible.

Exercise

Walking offers the most convenient, readily available and useful means of exercise there is. Except for walking around the golf course and to and from the automobile and table, this invaluable exercise has largely been discarded. It does take more time to walk to the office than to go in an auto or street car, but it is worth much more to the individual, from a physical standpoint. It is much easier to hire someone to mow the lawn than it is to push the lawn mower, but that light exercise in the open is valuable to the pusher. The elevator is so available that most of us feel abused if we have to walk up a single flight of stairs, yet mountain climbing is often prescribed when the heart has been damaged by disease.

There are countless ways we may use the body for the sake of making the muscles work, if we will also use our heads, but habit has largely removed such physical activities. It matters little how the exercise is obtained, provided that the body is gradually developed to this exercise. Such training should never

be pushed beyond the beginning of fatigue, especially at the start. As the muscles harden they will stand much more punishment without damage. But again it is stressed that time is one of the most important factors in making a physical readjustment, and muscles must be slowly regenerated, especially after long inactivity and more or less degeneration from disuse.

Tobacco and Alcohol

When one commences to touch on favorite habits, one is on dangerous ground. Yet some of these habits interfere markedly with physical rehabilitation and are unquestionably active causes of physical degeneration. Even when these facts are known, physicians are notably loath to admit them, especially as applying personally. Many are unwilling to give up destructive habits or even to modify them for health's sake. One physician I know very well told me that he would sooner pass on than give up or modify his smoking habits. If that is the viewpoint, this portion of the discussion had best be omitted.

My observation, over many years, together with a careful reading of all the available literature on the subject, has firmly convinced me that tobacco is one of the great enemies of physical wellbeing in older people. It certainly is destructive in youth, for no physician will advise a young person to use it. The constantly increasing death toll from cardiac diseases is closely parallel with the increasing use of tobacco, especially since the World War. Every sort of alluring advertisement has increased its use, until a non-user is becoming a curiosity. Yet more and more experimental work is being done, proving its destructive action on the arterioles by causing spasms which may last over an hour. This has recently been demonstrated to be especially true when tobacco smoke is inhaled. If, then, one smokes several cigarettes an hour, one's vascular system is in a more or less tonic spasm, during one's waking hours.

That the body does adjust itself, to some extent, to the poisons of tobacco, there can be little doubt, or the results would be much worse than they are. Nor is there any doubt that some individuals are much more susceptible to these toxins than others. But it has yet to be demonstrated that there is an individual who is immune to these effects. It would follow logically, if a person were physically degenerated, was a heavy tobacco user and was convinced that the constant intake of various toxic agents from this source was a probable factor in his condition, that he would eliminate it entirely or greatly reduce the consumption, at least long enough to determine whether or not he would be benefited by its elimination. It is not reasonable that a substance that is so toxic that it is one of the best insecticides, that will kill animals in minute doses, and the fumes from which

are charged with a number of volatile poisons, can be continually taken into the human system with impunity.

The use of alcohol enters somewhat into the problem, as it is now freely available, and the milder forms are being largely used. Science tells us that a very little may be normally oxidized in the body, but in excess of this small amount there are many deleterious effects. These facts are so well known that no discussion is necessary, but where health is the purpose of our treatment, there can be only one answer—alcohol should be eliminated entirely. Undoubtedly it is an increasing factor at present, as the old "beer bellies," the dilated cheek veins and ruby noses are again becoming increasingly apparent to anyone who observes as he walks along the streets.

It is my opinion that neither alcohol nor tobacco should be a part of one's intake, but each man has the right to his own opinion. If, however, it is apparent that these factors are detrimental to the individual, it would seem only wisdom to change certain habits in order to acquire that which is of much greater value.

The "System" and Its Results

The system is extremely simple. It may be summed up in a few short precepts.

1.—The amount of food the body requires, not the amount the individual desires to eat.

2.—Some form of exercise that will use all of the muscles of the body daily, taken deliberately in whatever form one enjoys, but to be as much of a routine as his habits of eating and sleeping.

3.—Elimination of deleterious agents that tend to increase degeneration and delay repair, whatever these agents may be, or how much one may be habituated to them. This is difficult, but not insurmountable.

Two illustrations will perhaps be encouraging: The first, a senior Army officer, of fine and distinguished record, but whose family history indicated a tendency to circulatory degeneration in early mid-life. His father, mother, one or two brothers and a sister had high blood pressure, and had died of "apoplexy." He was nearing the age at which most of his family had died and was quite depressed mentally about it when he came to see me for advice. I suggested that, while such disabilities might be more prevalent in some families than in others, it was often due to the family habit rather than to heredity. He was given the regime suggested and carried it out faithfully. About six months later he reported that he had lost 25 pounds, walked with a snap and "set-up" that I had not seen for years, looked years younger, and felt so much better that he told me nothing could induce him to resume his former habits. He lived to retire for age, and is still living, some fifteen years after his rehabilitation.

Another officer was retired for "blood pressure." He was given an outline of training, diet, etc., took a position as instructor in a large university, carried on a sane and useful life, and he too is still enjoying excellent health, some fifteen years after he was supposed to be ready for an immediate exit.

Physical regeneration is possible. It is a long, slow and difficult process, which requires much determination and persistence, but it pays the finest dividends in health and happiness of any of life's investments.

552 So. 58th St.

Calcium-Phosphorus Fraction of Milk in Pregnancy and in Gynecologic Conditions

By David W. Tovey, M.D., F.A.C.S., New York City

THE routine administration of calcium and phosphorus in pregnancy seems a logical development after noting the reports in the literature of recent years.

I first began to administer these elements for the purpose of establishing, if possible, a calcium balance which would maintain the integrity of the teeth of pregnant women. However, the general improvement and the tonic effects in most cases impressed me to such an extent that I began to give all cases calcium and phosphorus primarily for this reason.

It has long been known, of course, that pregnancy produces a decided drain upon the calcium and phosphorus depots of the system. The trabeculae, especially, of the bones and teeth are easily available storehouses of these elements, and from these the fetus will draw for its own calcium requirements. This withdrawal of calcium from the mother is particularly serious in the light of the statement of Sherman¹ that the average diet is deficient in this substance anyway. It was Bar² who pointed out that, in the latter months of pregnancy, the fetus requires about 0.638 grams of calcium per day—an amount greater than the calcium intake of the average American woman.

With facts like these before them, various investigators have made suggestions aimed at maintaining a positive mineral balance for the pregnant and lactating woman. Toverud³ advised a pint of milk or more per day, along with fresh fruits, eggs, cheese, vegetables and viosterol. Bernheim⁴ recommends at least one quart of milk and ¼ pound of cheese.

Instead of milk, I began giving the patients the calcium and phosphorus of milk in the form of Phos-Cal, a preparation which contains also the milk globulin, a readily utilizable protein. The giving of Phos-Cal may be called intensive or concentrated therapy, inasmuch as it is a product which comes in tablets, three of which contain as much calcium and phosphorus as one quart of milk.

In addition to three Phos-Cal tablets per day, I also gave halibut-liver oil, because

without vitamin D, the so-called "calcifying factor," there can be no normal calcium metabolism. The patients were from the clinic and it was reasonable to assume that their diets needed reinforcing with this vitamin.

On the results of this treatment upon the teeth I intend to report later, on the basis of more complete data. There are other factors to which I here wish to call attention. There was, for example, in most patients, a decided improvement in the general condition, with improved strength and appetite. Some were relieved of muscular pains and cramps and some of dizzy spells. At least one of my patients had the "winter itch" mentioned by Reed⁵, and was greatly relieved.

The reasons for improvement in some cases may be said to be speculative. It is not too much to assume, however, that an important reason was the supplying of an essential substance which was lacking, as in any deficiency disease. We can account for the improvement in those cases with muscle spasms and cramps on the basis of our present knowledge of physiologic chemistry. Calcium neutralizes guanidine, a waste product from the action of voluntary muscle. Insufficient calcium may mean failure of neutralization of guanidine, which, according to Major⁶, is toxic to muscle as well as liver.

Cases

Case 1:—D. M., age 21, para I, five months pregnant, complained of weakness, dizziness, cramps in leg and backache. After administration of Phos-Cal and halibut-liver oil, there was marked improvement. There was no more weakness, dizziness nor cramps, but at the last report some backache remained.

Case 2:—K. B., age 31, para II, five months pregnant, made frequent complaints of uterine cramps, muscle twitching and weakness. She was much improved after treatment.

Case 3:—E. G., age 30, para I, five months pregnant. This patient complained of cramps of marked severity in the legs. Her hemoglobin was 60 percent. The cramps stopped completely and the patient felt stronger and

brighter after treatment. Although she had a prolonged bleeding time when first seen, there was very little hemorrhage at delivery.

Case 4:—J. S., age 31, para I, five months pregnant, complained of weakness, with pain and cramps in her hips and legs. Weakness disappeared and her condition greatly improved under treatment.

Case 5:—L. M., age 23, para III, seven months pregnant. Severe cramps and pain in legs disappeared almost completely under treatment.

Case 6:—A. H., age 24, para II, seven months pregnant, complained of weakness, backache and poor appetite. Was much improved under treatment, especially the backache.

Case 7:—A. S., age 24, para I, six months pregnant. Cramps in the legs and weakness disappeared and her appetite improved after treatment.

Case 8:—A. M., age 30, para I, six months pregnant. Pains in the thighs disappeared and her general physical condition improved under treatment. This patient also complained of nervousness, which improved with her general condition.

Case 9:—P. L., age 25, para I, six months pregnant. The back pains of this patient could not be made to disappear, although she gained strength and weight under treatment.

Case 10:—R. C., age 26, para III, six months pregnant. Pains in right thigh remained in spite of treatment; but her strength, appetite and general condition improved.

Case 11:—L. S., age not recorded, para I, seven months pregnant, complained of cramps and backache. The cramps improved; the backache remained; there was a marked tonic effect from treatment.

Case 12:—S. I., age 29, para II, seven months pregnant, complained of much weakness, palpitation and slight edema. The weakness and palpitation disappeared under treatment and the patient gained strength and alertness.

Case 13:—T. R., age 35, para II, seven months pregnant. Chief complaints were dizziness and headaches, which appeared to be getting worse with time. Two weeks after beginning the treatment the patient said she was greatly improved.

Case 14:—A. J., age 22, para I, eight months pregnant, had a poor appetite and weakness, which showed marked improvement after treatment.

Case 15:—B. C., age 30, para II, seven months pregnant, was always tired and had no appetite. There was marked improvement under treatment.

Case 16:—M. K., age 25, para II, seven months pregnant. This is the patient who had a generalized pruritus which had remained refractory to all other treatment. It disappeared almost completely shortly after this treatment was started.

Gynecologic Conditions

In giving calcium and halibut-liver oil to patients with gynecologic conditions, there was no expectation that these substances

would have a specific effect on disease. However, having observed the improvement in the patients in the prenatal clinic, I desired to obtain the same benefits for patients with other conditions. It is a fact that pelvic diseases are frequently a decided drain upon health and strength, and treatment was instituted in these cases for the "tonic" effect.

Cases

Case 1:—J. K., age 47, operated upon for cystocele and appendectomy, was much stronger and showed a greatly improved general condition after treatment, which was discontinued when the patient objected to her gain in weight.

Case 2:—M. N., age 40, had large fibroids, which were not operated upon because of bronchitis. There was much weakness; but her strength returned and her general condition was vastly improved after treatment.

Case 3:—F. G., age 32, was operated upon for ruptured ectopic pregnancy. Her strength returned and she gained in weight after treatment.

Case 4:—R. N., age 34, was operated upon for cystocele and appendectomy. This patient was very much run down and complained of being constantly tired. She gained strength and weight soon after starting treatment.

Case 5:—A. E., age 70, was operated upon for hysterectomy and cystocele. She was very nervous and run down, but marked improvement in her general condition, with some gain in weight, appeared after treatment.

Case 6:—A. M., age 42, complained of rectocele, leukorrhea and, for three years, burning on urination. She was very much run down and weak, but her general condition improved under treatment.

Case 7:—C. H., age 31, was anemic, had headaches, and had not menstruated for three months. On calcium and halibut-liver oil, the headaches disappeared and the menses started to flow.

Case 8:—C. G., age 36, suffered from cystocele and trigonitis. She was very weak and nervous, but showed moderate improvement on treatment and some gain in weight.

Case 9:—M. R., age 45, was passing through the menopause, with dizziness, headaches and hot flashes. This patient was given glandular therapy, along with calcium and halibut-liver oil, and experienced much relief.

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57 W. 57th St.

Streptothricosis

A Report on the Use of Sodium Thiosulphate in Treatment

By W. Forest Dutton, M.D., and Ernest E. Reeves, M.D., Amarillo, Texas

THE chemotherapy of the cutaneous form of streptothricosis has, up to the present, received but little serious attention, with the result that the treatment is in a stage of empiricism.

Various drugs have been recommended for the treatment of streptothricosis; and while successful results have been claimed for the

articles, by other investigators,^{1 to 7} and would be superfluous in this paper. Typical lesions are shown in Fig. 1.

Radical excision with the electrocautery was performed on the four existing ulcers, followed with daily dressings of iodoform gauze. Three weeks later, two nodules were removed from the right groin, swabbed with tincture of iodine, and packed with iodoform gauze. Potassium iodide, 20 to 30 drops of saturated solution, in milk, was given three times daily. At the end of six weeks, the lesions had become worse. X-Rays, bland ointments and various solutions were, in turn, administered until April 4, 1928. Then, owing to the general disability of the patient, he was confined to bed. The large doses of potassium iodide, orally, alternated with Pregl's iodine solution (concentrated), 20 cc. intravenously, were continued and, in addition, one grain of cacodylate of iron, intramuscularly, was given every other day. Wet dressings of a 15-percent solution of sodium thiosulphate were substituted for all other forms of local applications. The cotton and gauze pads, well bandaged, were kept saturated and changed daily.

After one week of this treatment, the lesions began to show healthy granulations. Notwithstanding the large doses of the iodide, no evidence of iodism was manifest except over the area covered by the pads saturated with sodium thiosulphate. The patient continued to improve, the lesions healed, and the patient was discharged on July 2, 1928. There has been no recurrence of the condition and, when examined March 17, 1933, he was found to be in good health.

Case 2: R. L., male, age 5, was admitted to the medical service of one of us (W.F.D.) May 7, 1928, with the chief complaint of ulcers on the inner surface of the upper third of left thigh. For six months prior to admission, he had been treated for actinomycosis by his family physician. There was no marked loss of weight. The history was negative, except that he had "played in and about the barnyard." Family history, negative.



Fig. 1.—Lesions of Streptothricosis: (1) Indurated Pustule of three days' duration; (2) Ulcer of two weeks' duration; (3) Healed Lesion.

intravenous injection of potassium iodide and gentian violet, there have been many cases in which these drugs alone have entirely failed.

Extirpation of the lesion is advised, when it is accessible or circumscribed. Curetting, cauterization, x-rays and radium have been recommended. Supplementary treatment with iodide internally and 1-percent copper sulphate or iodine locally is of uncertain value.

The foregoing methods of treatment had proved inadequate when the cases in this report came under our service. However, definite improvement and a possible cure have followed radical excision of the diseased areas with the electrocautery, the combined use of potassium iodide, orally, cacodylate of iron, parenterally, and applications of sodium thiosulphate, topically, in two of our cases.

Case Reports

Case 1: G. P. W., a farmer, aged 30, was referred to one of us (W.F.D.) November 3, 1927, because of ulcers on the right leg. The patient had been treated by his family physician since October, 1926, without improvement. A general survey of the condition indicated a specific infectious disorder, fungous in character. Smear and culture from the lesions of the leg for fungi showed the streptothrix organism—a typical Gram-positive streptothrix with true branching. The isolation of the organism, its pathogenicity, etc., have been discussed in previous published

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The patient was fairly well nourished and was not acutely ill. Examination of the lungs and intestines was negative. Five ulcers, varying from 2 to 5 cm. in diameter, were located on the inner surface of the left thigh; the lower two were confluent. The ulcers, ovoidal in outline, were of a "punched out" type with ragged and undermined edges, each having a purplish, granular base, covered with brownish-yellow pus. Streptothrix was demonstrated in smear and culture.

Treatment, in addition to supportive measures, consisted of radical excision with the electrocautery, wet dressings with a 10-percent solution of sodium thiosulphate, 10 to 20 drops of a saturated solution of potassium iodide in milk, by mouth, after each meal, and cacodylate of iron intravenously, every third day.

Definite improvement was evident after the second week, and, the ulcers having healed completely, he was discharged as cured, September 15, 1928. December 22, 1928, the patient returned for treatment. He had developed pulmonary streptothricosis, and, notwithstanding intensive treatment, there was a gradual decline in health and he died February 15, 1929.

Case 3: C. E. A., a man, aged 26, employed as a clerk for a dental supply concern, abraded the skin over the tibia of the right leg while opening a box of instruments packed in excelsior and mouldy grass, December 2, 1933. He became acutely ill, with moderate chills and fever, general malaise and a slight cough, on December 14. The leg was intensely swollen and an abscess had developed at the site of the abrasion. He was placed in a local hospital, by his physician, December 17, where he remained until December 29, 1933, and was then removed to his home. During this time, and until February 22, 1934, various types of treatment, including excision, cautery, ointments, potassium iodide, by mouth, roentgen rays and wet dressings failed to inhibit the progress of the ulcers. When seen by us on February 22, 1934, he was anemic and had developed two additional ulcers on the inner and outer surfaces of the leg, respectively, but was not acutely ill.

Our treatment, in addition to supportive measures, consisted of radical excision with the electrocautery, wet dressings with a 10-percent solution of sodium thiosulphate, par-enteral injections of cacodylate of sodium or iron, every second day, and potassium iodide by mouth. The dressings were changed daily, but the ulcerated areas were at no time touched by anything except dressings. Par-enteral injections of cacodylate of iron and soda were administered as alternatives. Potassium iodide, 10 to 30 drops of the saturated solution, in milk, after each meal, was given. When gastric intolerance to the iodide was evident, 20 cc. of Pregl's iodine solution (concentrated) were administered intravenously, daily or every other day.

From the beginning, the ulcers showed definite improvement, appearing clean and healthy within two weeks. At the end of four weeks, the ulcers on the inner and outer surfaces had healed completely. However, on March 20, two additional ulcers had developed on the posterior surface of the lower third of the leg, below where the wet dressings had been applied.

In order to observe the progress of these lesions, we continued the routine treatment with cacodylate of iron, potassium iodide, and dressings until April 29, 1934, when a radical excision with the electrocautery was performed. Then we resumed treatment as mentioned in the foregoing paragraphs. On July 10, 1934, the ulcers had healed completely and the patient was discharged with instructions to continue the potassium iodide, 10 drops thrice daily.

The patient was examined September, 1934. No evidence of further involvement was found.

Comment

We are convinced that the portal of entry in these cases was through the skin. There appears to be evidence in Case 2 that, after the healing of the skin lesions, the organism was present in the lymphatic glands and subsequently resulted in a terminal infection of the lungs. In this case, the iodides should have been continued over a long period.

Excision, curetting, cauterization, x-rays, ointments and various other applications, recommended by others in this condition, failed to cure our cases. However, we believe that early radical excision of the lesion with the electrocautery is a valuable aid. The iodides, especially potassium iodide, supplemented with cacodylate of iron parenterally, and wet dressings of sodium thiosulphate, have a distinct place in the therapy of this condition.

There is some evidence that potassium iodide inhibits the growth of the streptothrix in the lymph vessels and glands. A fact worthy of serious consideration is that, notwithstanding the large doses of the iodide given, there was no evidence of iodism except on the area covered by the wet dressings. The peculiar chemical reaction of the iodide compounds internally and sodium thiosulphate externally emphasizing the anti-pathogenic action at or in the diseased area, merits further investigation.

Conclusions

We believe that the therapy proposed in this article is based upon sound therapeutic principles. The chemotherapeutic action of potassium iodide, systemically, and sodium thiosulphate, locally, causes the destruction of the infectious agent and the erection and mobilization of local tissue defenses after early excision with electrocautery and, for this reason, makes for a feasible therapeutic measure worthy of extensive clinical trial.

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Hyperpyrexia in General Medicine

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IN the past few years much interest has been evinced by both the medical profession and the laity in the relief of disease by artificially-produced fever. In an article on the treatment of arthritis with a fever-producing machine called the hyperpyrexator¹², read before the Fulton County Medical Society, Atlanta, Georgia, on December 7, 1933, and published in the *Medical World*, May, 1934, the authors discussed briefly the history of pyretotherapy, in introducing the clinical reports. A résumé of part of the subject matter of that paper is repeated here in order to provide an adequate background for our remarks and for the reporting of individual diseases.

In 1883 Phillips³¹ demonstrated the value of temperature-raising baths. After this, though there was desultory experiment upon animals and human beings, little advance was made until 1918, when Wagner-Jauregg³⁸ reported the use of malaria for the production of fever as an actual mode of therapy. Since Wagner-Jauregg's work, many different methods of producing therapeutic fever have been evolved and used, with varying safety and efficiency.

Of the internal methods, the injection of sulphur or other preparations into the body^{3, 32} and the inoculation of organisms of rat-bite fever and of malarial parasites³ are still being used. These methods depend upon the reaction of the body to the introduction of a foreign substance, and such reactions in different individuals can neither be predicted nor controlled with any degree of accuracy. Fatalities following the injection

of malaria in some series of cases have been as high as 23 percent.

The following mechanical means have been used to produce therapeutic fever:

Hot water baths^{31, 40, 34, 39, 33, 9,}

Paraffin baths (no reference found in the literature).

Electric-light cabinets^{21,}

Electric blankets^{41.}

Diathermy machines^{29, 41, 35, 16, 2, 7, 22, 23, 1, 6, 8, 10, 15, 16, 32.}

Short-wave radio machines^{11, 5.}

Cabinet with infra-red burner^{3, 4, 35, 12, 17.}

The limited temperature which can be produced by baths and by electric-light cabinets makes them of little value in many conditions.

In the past, the type of electric blanket used was apt to cause burns, due to a short circuit caused by the patient's sweating^{29, 41.} New types of blankets are now being manufactured to avoid this hazard, but the use of any type of blanket necessitates the restriction of the patient's movements, with resulting increase in nervousness and discomfort.

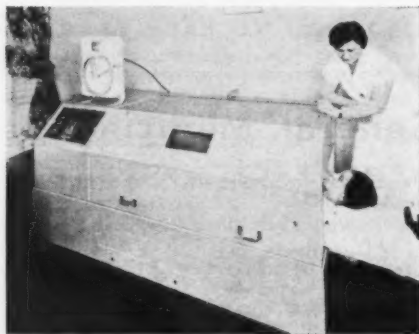
Diathermy has, for the past eight years, been the most popular mechanical means of producing therapeutic pyrexia. A high degree of fever can be induced, but the method requires the application of large mesh electrodes to the body, the covering of the patient with some insulating material, such as blankets, or an especially prepared zipper bag¹⁶. Sparking from the electrodes often causes burns, which may at times be very severe. Covering the patient with the insulating material prevents free movement

and increases the nervousness and the delirium which sometimes come with rise in temperature.

The short-wave radio machine has received wide publicity during the past three years, but it is not yet perfected for general use. The present type of machine at times produces burns by the concentration and arcing of radio waves through drops of sweat^{5, 11}.

The Hyperpyrexator

In treating all the cases reported in this article, the authors have used the hyperpyrexator—a cabinet type of machine. The



The Hyperpyrexator used in these treatments.

heat is produced by a long infra-red burner, which lies just above the metal-lined bottom of the cabinet. Over the length of the burner is a container filled with water. This water vaporizes with the heat and saturates the air in the cabinet, preventing evaporation of sweat from the patient's skin, with its resultant cooling effect.

The cabinet is sufficiently large for free movement of the patient, who lies on a stretcher bed with no covering except the vaulted top of the cabinet, so that there is no restriction of movement of arms, legs, body, nor of respiration. Comparing our experience with the reports of physicians using other types of machines, this absence of restriction results in less nervousness and less delirium than in patients covered with blankets or bags. The patient's head is outside the cabinet, and about the neck there is a soft-rubber apron and towels.

In this machine the patient cannot be shocked or burned. No direct nor even reflected radiation reaches the patient. The temperature of the cabinet is mechanically controlled, and the temperature in the patient's body may be controlled at any point from normal to 106° F. A chart attached to a recording instrument, which is connected with an especially designed axillastat, shows the length of the treatment and the curve of the patient's temperature at all times. A competent attendant records the pulse and mouth

temperature every ten minutes. This attendant never leaves the patient.

To replace the water lost by sweating, and to prevent resultant weakness, water, fruit juice or, better, 0.6 percent saline solution, are given to the patient at frequent intervals. After the cabinet treatment is finished, if it is desired to keep the patient's temperature up for any length of time, he is wrapped in blankets and given hot applications. If not, the temperature is reduced to normal, usually in from 12 to 20 minutes, by the use of shower baths or sponge baths.

Effects of Artificial Fever

The effects of artificial fever on the body have not been fully determined. In a former paper¹² the apparent changes were reviewed as follows:

Metabolism is increased, and the oxidation of tissue and of toxic substances is supposedly increased proportionately. It is supposed also that the body is able to eliminate toxic substances faster and to destroy bacteria faster during the period of pyrexia.

As the temperature rises, there is a proportionate rise in the rate of the heart. At first, there is a slight rise in blood pressure, and later there is a fall. The rate of respiration is moderately increased. There is a marked increase in sweating, and patients may lose from one to five pounds in weight during a treatment. The red blood cells are concentrated at the height of the temperature²⁰. There is an increase in white blood cells, with a relative polymorphonuclear increase and a decrease in eosinophiles. There is a marked vasodilatation. Van Kennel has shown that the permeability of cells is increased, and he thinks that this factor is largely responsible for the beneficial effects of fever therapy. (Normal vesiculation time of a cantharides plaster is eleven to twelve hours. In malarial therapy, at the height of the temperature, this time is reduced to four or five hours, and between treatments to six or seven hours.) Jung has shown that the opsonic index, complement content, the agglutinins, and the lactic acid of the blood show relatively little change from the average normal²⁰. Changes in the sedimentation rate of the red blood cells correspond to the clinical improvement of the patient¹⁸.

Artificial pyrexia produced by any method causes some undesirable effects on the patient. Most of our patients have been fairly comfortable in the hyperpyrexator, and a few really like the treatment, become drowsy, and may go to sleep. In most patients, however, the restlessness, which is the natural physiologic accompaniment to rise in temperature, is evident during the treatment. This restlessness may be largely controlled, however, by the continuous presence of a sympathetic attendant, the application of cold packs to the

head, or by the administration of the proper hypnotics or narcotics.

A very few patients have complained of headache, palpitation and nausea, when their temperature reached 103° F. or above. In a small percentage of cases of arthritis, joint pains have been increased by the first two or three treatments, and all such patients should be warned that this may occur. With temperature of 104° or 105° F., a few patients become delirious. This delirium is controlled by the administration of hypnotics or narcotics. We have used most often Amytal, Sodium Amytal, codeine, Dilaudid and Pan-topon.

In a few cases, *herpes labialis* has occurred the next day after treatment. Berliner²⁰ reports *herpes corneae* occurring in two patients after artificial pyrexia induced by diathermy. In both patients, the temperature was raised to 105.8° F. and was maintained for 4 to 4½ hours.

Two deaths from the use of fever therapy have been reported by Bishop et al⁷. Diathermy was used to produce the fever, and the temperature was raised to 106.7° F. Both patients were considered bad risks, one being a chronic alcoholic with cerebrospinal syphilis, and the other a case of chronic encephalitis of eight years' standing. The only mortality reported from the use of the hyperpyrexator was a case of chronic encephalitis who died following a secondary rise in temperature eight hours after treatment⁴.

Hinch¹⁸ has made a study of usual and unusual reactions to protein fever therapy in 2,500 patients, and concludes that the contraindications to its use are pulmonary tuberculosis and advanced sclerosis of the peripheral, coronary or renal arteries.

In the hyperpyrexator, in which the induced pyrexia of the patient can be accurately controlled, we have treated patients varying in age from 5 years to 81 years (the temperature of the five-year-old being carried to 105° F.), and the many types of cases mentioned below, and we feel that with this machine the treatment is safe, if in the beginning the temperature is increased slowly, and is kept within the tolerance of the individual patient. Contraindications will depend upon the degree of fever to be produced, and the judgment and experience of the operator, following a careful examination of the patient, will readily indicate the limits of treatment.

A large number of different diseases have been treated by pyretotherapy, by all different methods and by many different investigators working independently of each other. Much of this work was done as a clinical test, to determine whether or not this method of treatment would help conditions which had not been relieved by other means. We cannot, in the scope of this paper, discuss or give references to all of this work, but must limit our

discussion to those types of cases which we have, ourselves, treated.

Analysis of Cases

Arthritis

Of all the diseases treated by the various agents of pyretotherapy, perhaps the greatest number may be classified under different forms of arthritides. We have attached references by many different authors, both in America and in Europe, upon the treatment of arthritis by various methods of hyperpyrexia. According to these reports, treatments have resulted in relief of pain, reduction of swelling, gradual relief from stiffness, increased motility, the cessation of bone proliferation, of bone atrophy, and of bone destruction. The percentage of marked improvement in all reported series of cases, of sufficient number to be significant, varied from 69 percent to 77 percent^{30, 29, 5, 11, 4, 7, 17, 19, 22, 23, 24, 25, 26, 27, 28, 37, 36, 6}.

In our former article¹² we reported 71 cases of arthritis. We include these in the number reported here, and add 71 more, a total of 142 cases.

The terms *infectious*, *deformans*, *gonococcic arthritis*, and *hyperthyroid joints* are self-explanatory.

The cases of infectious arthritis gave a history of onset of symptoms following definite infection. The cases of arthritis deformans and of gonococcic arthritis were so diagnosed by the physicians referring them to us, and our own findings corroborated this. The cases of hyperthyroid joints were associated with a definite hyperthyroidism and absence of focal infection.

All the usual methods of treatment of arthritis had been employed on most of these cases the duration of which was longer than six months, without definite improvement and usually with progressive increase of the disturbance.

The duration of disease in these patients ranged from two days to 28 years. The youngest case treated was 17 years of age, and the oldest was 81 years of age.

The maximum temperature ranged from 101° F., in some of the older patients, to 105° in some of the younger patients. The average duration of sustained high temperature was 1½ hours, with a maximum time of 2½ hours.

The number of treatments required for complete relief of symptoms varied from one to thirty. The majority of patients received about fifteen treatments. Many of the patients who were treated within 48 to 72 hours after the onset of the attack were completely relieved by the first treatment, and seldom required more than three treatments.

In the chart analysis of the cases of arthritis, the term *relieved* refers to patients who have had complete relief from all their joint pain, and who have had no recurrence to date.

CHART I
ARTHRITIS

	No. Cases	Relieved	Improved	Unimproved	M.	F.	Total No. of Treatments
Infectious Arthritis							
Finished Treatment.....	60	(46.66%) 28	(45.0%) 27	(8.33%) 5			
Under Treatment.....	10	(10.0%) 1	(90.0%) 9	0			
Discontinued Treatment..	49	0	(75.5%) 37	(24.5%) 12			
Total	119	29 (24.3%)	73 (61.32%)	17 (14.3%)	55	54	1,080
Arthritis Deformans							
Finished Treatment.....	6	0	3	3			
Under Treatment.....	0	0	0	0			
Discontinued Treatment..	5	0	2	3			
Total	11	0	5 (45.45%)	6 (54.54%)	2	9	198
Arthritis, Gonococcic							
Finished Treatment.....	3	2	1	0			
Under Treatment.....	1	0	1	0			
Discontinued Treatment..	6	0	4	2			
Total	10	2 (20.0%)	6 (60.0%)	2 (20.0%)	8	2	91
Hyperthyroid Arthritis							
Finished Treatment.....	2	2	0	0	0	2	17
Total number of cases.....					142		
Total number of treatments.....					1,386		

In most instances, mobility of the joints was also improved. The term *improved* refers to patients who were relieved to a marked extent from pain and stiffness of joints, and whose ability to carry out their usual activities was markedly better than before treatment. These patients, for the most part, stated that the hyperpyrexator treatments have given more marked relief than any therapy previously used.

Gonorrhea

We do not find as many definite reports on the treatment of gonorrhea as are found on many other diseases. Bishop et al.⁷ report that 2 cases of gonorrheal cervicitis were entirely cured after one or two treatments. King²³ reports excellent results in treating gonorrhea in the female, but not quite such good results in the male. Carpenter and Warren¹⁰ report that the best results in using fever produced electrically have been obtained in cases of gonococcic infection of the lower birth canal. Many of these became

bacterially negative after one treatment with temperature of $41\frac{1}{2}^{\circ}\text{C}$. (106.5°F).

Three cases of gonorrhea in the female were referred to us for treatment, one of two weeks' duration, one of four weeks' duration, and one of six months' duration. Smears taken from the cervix were positive in all three. All three cases were completely cured. The smears were negative in each one after the third treatment, and all discharge ceased entirely after the sixth treatment. The maximum temperature in these cases was 103.4°F .

Tabes and Paresis

Berris reports 2 cases of tabes and 4 of paresis treated with the Clark hyperpyrexator⁴. Three (3) of the cases of paresis showed marked improvement, and both cases of tabes were markedly improved. Neymann et al.²⁹ report the relief of crises in tabes and, in their series of paretics, 16 were completely relieved and 2 improved.

Bishop et al. treated 15 paretics, giving from two to four treatments, from ten days to several months apart. One of these cases died, as mentioned above. The other 14 were relieved, and of these fourteen, only one had relapsed⁷.

Prior³² reports the treatment of 12 cases of general paralysis of the insane. Five (5) of these cases were much improved; 3 were somewhat improved; and 4 were not improved.

Many other authors^{34, 6, 8, 41, 10, 22, 1} report gratifying results in the treatment of paresis, with percentages of relief and improvement comparing favorably with the results obtained from chemical and malaria therapy. The most significant difference is in the decreased number of deaths by fever produced electrically, as compared with the mortality percentage of injection methods.

Seven (7) cases of tabes have been treated in our machine. The one of shortest known duration, three months, improved rapidly in all his symptoms, but his family moved from the city before the course was finished. All the other cases have had a duration of one to twenty years. Three (3) of these have shown definite improvement in their symptoms, but have not been entirely relieved. Three (3) cases showed no improvement of symptoms.

The average number of treatments given these cases was twelve, with a maximum temperature of 105.6° F.

Six (6) cases of paresis have been treated. One (1), so far, has been totally relieved; 2 cases have been markedly improved and have returned to work; 1 case showed no improvement whatever. The case with complete relief had had symptoms of two months' duration. The two cases who were improved had had a duration of symptoms of several years, as had the case who was unimproved. The two other cases took two or three short treatments and stopped.

The average number of treatments per case and the temperature were as in the treatment for tabes.

One case of syphilitic aortitis of unknown duration, suffering marked pain, with a Wassermann-fast condition, was given 8 treatments, with a maximum temperature of 102.8° F. All pain was relieved after the fifth treatment. The Wassermann-fast condition was not affected.

Bronchial Asthma

Feinberg et al.^{14, 17} report a group of 42 cases of asthma, 70 percent of whom had marked complications, such as emphysema, chronic bronchitis or bronchiectasis, and all of whom had been unrelieved by the usual methods of treatment. Results were ascertained in 35 of the 42 cases. Fifty-one (51) percent of the 35 had complete relief, varying from several days to 9½ months, and 29 percent had improvement without complete relief.

Neyman et al.²⁰ report 80 percent of their cases of intractable asthma improved.

Pasteur and Mauric³⁰ treated 45 asthmatics by pyretotherapy, and concluded that fever arrests most asthmatic attacks in adults.

We have treated 9 cases of bronchial asthma, 8 of which had no demonstrable sensitivity to the usual allergens. Five (5) of these had definite pan-sinusitis. Four (4) of the 5 showed some improvement in their asthma, but only one showed any improvement in the sinusitis, and this questionable. One of them, whose temperature could not be elevated over 101.2°, was not improved. The other four had temperatures ranging from 102.8° to 104.6° F.

The other 3 cases showed no definite improvement. Two of them were women who were going through the menopause and the third was a man who had had collapse of one lung on two occasions.

With the exception of one case of chronic sinusitis, the improvement shown after treatment lasted only a short time, and two of these cases have since died in an attack of asthma. All the cases treated were of long duration, of very severe type, and, with the exception of two patients, were in such poor physical condition that the temperature could neither be raised very high nor continued for very long at a time.

We feel that our experience in treating asthma by hyperpyrexia has not been sufficient to justify an opinion of its efficacy in this disease.

Angiospasm

Berris⁴ reports 7 cases of peripheral vascular disease of the extremities, varying from simple angiospastic conditions to advanced Berger's disease with gangrene of the toes. He reports complete relief of the moderately advanced cases, and some relief in even the far advanced cases.

King²⁴, in discussing thromboangiitis obliterans, reports relief of pain and of claudication and healing of superficial ulcers following the use of therapeutic pyrexia.

Four (4) cases of simple angiospasm have been treated by us.

Case No. 1, male, 48 years of age, had marked pain during all cool and cold weather, affecting the feet and legs chiefly, the hands and arms to some extent, duration 10 years, following a severe case of amebic dysentery. The symptoms were so severe that the patient could hardly go out at night during inclement weather, and had to wear wool socks and foot-warmers to sleep. This patient took two treatments, and has obtained marked relief.

Case No. 2, a male, 41 years of age, had had an angiospasm of the feet, of moderate severity, following frostbite. This condition had been gradually increasing in severity for several years, and finally reached the point of extreme discomfort whenever the weather became cold. The patient received four treatments with maximum temperature of 102.5°

F., and has gone through two winters with 75 percent relief of all symptoms.

Case No. 3, a female, age 24, took three treatments, and gained some relief, then stopped treatment.

Case No. 4, a female, 30 years of age, had an angiospasm of ten or fifteen years' duration. She took six treatments, and obtained marked relief, but moved from the city before we considered the treatment finished.

Diabetes

Three patients having diabetes were treated for other conditions. As a matter of interest, their blood sugar was determined before and after treatment. One patient, whose blood sugar was approximately normal before treatment, showed a drop of 5 mg. in one hour's treatment. Two cases had blood sugar well over 200 mg. before treatment, and after treatment showed a drop of 50 mg.

Corneal Ulcer

Four cases of corneal ulcer have been treated.

Case No. 1 was a male, 62 years old, in whom the ulcer had been caused by a foreign body, and secondary to the ulcer iridocyclitis had developed. This patient had been under treatment by an ophthalmologist for three months, with his condition steadily growing worse. Due to the progressive damage to the eye, enucleation was advised. He was referred to us for treatment by the ophthalmologist, in an attempt to prevent this. The patient was in extreme pain at the time the treatments were begun. After the third treatment, all pain disappeared, the patient could sleep without narcotics, and the ulcer began to heal. After six treatments, the ulcer was completely healed. The patient recovered 75 percent of vision.

Case No. 2 was a five-year-old boy whose corneal ulcer was the result of an injury, and who had developed panophthalmitis. The interval since injury was three months, and the infection and drainage from the eye-ball was so great that the ophthalmologist hesitated to do an enucleation. This patient was given six treatments, with a maximum temperature of 104.4° F. After the second treatment, there was marked improvement in the eye. After the fifth treatment, the acute inflammation had entirely subsided. The child at this time was gaining in weight and his general physical condition was markedly improved. Enucleation was done later, in order to protect the other eye.

Case No. 3 was a male, 39 years of age, who has had corneal ulcers in both eyes almost constantly for four years. This was associated with an extreme arthritis. These ulcers have healed with practically no scarring of the cornea, and there is a marked improvement in his vision.

Case No. 4 was a female, 33 years of age, who has had corneal ulcers at intervals for 12 years, and also had arthritis. In November, 1933, she was given three treatments with a maximum temperature of 104° F., and has had no recurrence. Previously, for twelve years, the longest interval between ulcers was three or four weeks.

Psoriasis

One case of psoriasis, male, age 39 years, has been treated at the request of a dermatologist. The patient states that he is somewhat improved, and the secondary infection about the fingernails has subsided to a marked extent.

Another case, male, 43 years of age, had psoriasis of ten years' duration. The condition was all over the body and very severe. He took 19 treatments, with marked improvement. Maximum temperature was 104° F.

Neuroses

Six cases of marked neurosis in middle-aged men and women, in whom other treatments had so far failed, were given from one to sixteen treatments, with maximum temperature varying from 101° to 103.8° F., with no improvement.

Chronic Sinusitis

Only one patient has been treated definitely for this disease, but five other cases reported under Bronchial Asthma had chronic pansinusitis, and were treated as above stated. Only one of these six patients received any improvement of this condition, and this improvement, in our opinion, is questionable.

Acute Respiratory Infections of Various

Types

Five cases of acute respiratory infection, which had been resistant to other forms of treatment, were treated with the hyperpyrexator, and all five improved. None of the five, however, were completely relieved immediately by the treatment.

Obesity

Four cases of extreme obesity were treated, three for obesity alone, and one in conjunction with sacro-iliac arthritis. These cases lost from 3 to 8 pounds per treatment, but if the patients were not careful, the weight would be quickly regained upon eating and drinking following the treatment. We do not feel that this treatment alone would be of much use in treating obesity. The average patient being treated in the hyperpyrexator for the diseases enumerated gains weight during the series of treatments.

Tinnitus

Two cases of tinnitus have been treated.

Case No. 1 is a male, 68 years of age, who has had gradually increasing tinnitus for three years, until it reached the point, a few months

ago, of so great annoyance that the patient could hardly carry on his work. Treatments in the hyperpyrexator relieved this tinnitus only temporarily, and the patient continues to take these treatments at intervals of three to ten days as he finds it necessary. Due to other conditions, this patient's temperature cannot be carried higher than 101.5°, but the relief he experiences is so great that he insists upon continuation of the treatment.

Case No. 2, a female, 40 years of age, had a marked tinnitus for several months, which was completely relieved by 7 treatments. She has had some recurrence since, but not of sufficient severity to justify further treatment.

Chorea

One case of chorea in a boy of eight, recently had six treatments over a period of two weeks, with temperature up to 104° F. No special change was noted while the patient was under treatment. He is from out of town, and is to return later for further treatment, if advisable.

Miscellaneous

Sixty-one (61) patients, who had pains in various parts of the body, with diagnoses ranging from sciatica and myalgia to neuritis, and whose actual diagnoses were indefinite, were treated. Fourteen (14) were completely relieved of their symptoms; 31 were improved; and 16 unimproved.

One case of this group deserves special mention. A female, 48 years of age, had had marked aching in the left side of the pelvis over a period of two years, without demonstrable cause, and all treatment failed to give relief. She was completely relieved of all her pain after ten treatments; maximum temperature 103.2° F.

Summary

1.—A brief discussion of medical treatment by pyretotherapy has been given, with short clinical reports on 258 cases treated by the authors with the hyperpyrexator. These 258 cases were given 2,348 treatments. The maximum temperature of the patients varied from 101.5° to a little above 105° F. There were no fatalities. The patients suffered relatively little inconvenience from these treatments.

2.—One hundred forty-two (142) cases of arthritis were treated. A large percentage of the cases of infectious arthritis and gonorrheal arthritis were either totally relieved or markedly improved. The two cases of hyperthyroid arthritis were relieved. The cases of arthritis deformans obtained less improvement.

3.—In treating 7 cases of tabes, relatively little improvement was noticed. Six (6) cases of paresis showed marked improvement.

4.—All cases of asthma treated showed relatively little improvement, and that of short duration. All these cases, however, were of long standing, infectious in type, and poor risks for the use of high temperature.

5.—Four (4) cases of corneal ulcer were quickly relieved.

6.—Four (4) cases of angiospasm showed marked relief after a few treatments.

7.—The treatment has been of no use at all in a small series of neuroses and chronic sinusitis.

The authors believe that the treatment, as above described, is safe and is a valuable asset in medical treatment, especially in arthritis, corneal ulcer, gonorrhea of the female and paresis.

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719 Doctors' Bldg.

NOTES AND ABSTRACTS

Infrared Radiation

INFRARED radiation (radiant heat) should be employed wherever the application of convective heat is called for.

It appears to be an antidote to overdoses of ultraviolet rays, and should be applied for half an hour whenever such a dose has, for any reason, been administered, to spare the patient the unpleasantness of a burn. It is also said to stimulate the production of sex hormones.

It is helpful in myositis, but not in myalgia; in gonorrheal, traumatic and subacute or chronic rheumatic arthritis, but is contraindicated in tuberculous or acute rheumatic arthritis; in neuritis, but less so in neuralgia; in simple, but not in severe fractures; in certain types of backache, especially that due to gynecologic conditions, but not in myositis, spondylitis or sacro-iliac disease; and in menorrhagia and metrorrhagia, if enough is given.

Infrared irradiation is contraindicated in Raynaud's disease, thromboangiitis obliterans, endarteritis obliterans, erythromelalgia and thrombophlebitis.

Treatment must be individualized if good results are to be obtained.—DR. JOSEPH ECHTMAN, of New York City, in *Med. Times*, June, 1935.

X-Rays for Carbuncles

ROENTGENOTHERAPY is of great value in the treatment of carbuncles, but for best results it must be applied as early as is possible.

Since small doses are as effective as those of 300 to 400 r, the penetration, the filtration and the total dose must be varied, in accordance with the location, the extent and the duration of the lesion.

In few or none of the reports on this subject has the dose, in terms of roentgens (r units), been stated. This must be done in the future, if this valuable procedure is to be properly and practically standardized.—DR. WHITMER B. FIROR, of Baltimore, in *A. J. Roentgenol. & Rad. Ther.*, Jan., 1935 (through *Radiol. y Fisioter.*, Sept.-Oct., 1935.)

Look for THE LEISURE HOUR among the advertising pages at the back.

I have been reading CLINICAL MEDICINE AND SURGERY since 1927 and I look forward to it each month. I have been out of training since 1913 and I find it a great help in keeping up with the times.—A. S., R.N., Maryland.

THE SCIENTIFIC ATTITUDE

Before experience itself can be used with advantage there is one preliminary step to make which depends wholly on ourselves. It is the absolute dismissal and clearing the mind of all prejudice, and the determination to stand or fall by the result of a direct appeal to facts in the first instance and a strict logical deduction from them afterwards.—SIR JOHN HERSCHEL.

PROCTOLOGY

●
ASSOCIATE EDITOR

WILLIAM A. HINCKLE, M.D., Peoria, Ill.

Benign Rectal Stricture

(Lymphopathia Venerea)

By Rufus C. Alley, M.D., Lexington, Ky.

BENIGN stricture of the rectum occurs with sufficient frequency and with such disastrous results as to invite the serious consideration of every practitioner of medicine. Within the past few years much light has been thrown upon the etiology of rectal stricture and more general interest in this condition has been evident.

Stricture of the rectum presents a clinical picture easily recognized. It is essentially a tubular, or annular, constriction of the rectum, the wall of which has become a thick, heavy mass of scar tissue. The condition is usually progressive and often produces obstruction of the bowel.

While formerly thought to be caused by syphilis, gonorrhea or other agencies, recent studies indicate that an obscure and infrequently recognized venereal disease is the cause of most, if not quite all, inflammatory rectal strictures. Many confusing names have been applied to this disease, among which are: lymphogranuloma inguinale, lymphogranuloma venerea, climatic bubo, tropical bubo, strumous bubo, Durand-Nicolas-Favre disease, subacute inguinal lymphogranulomatosis, the fourth venereal disease, the sixth venereal disease, non-venereal bubo, non-tuberculous granulomatous lymphadenitis, and other terms which only cause confusion. Most of us who are interested in the clinical study of this disease have agreed that the name "*Lymphopathia Venerea*" is most descriptive and least confusing.

Incidence and Clinical Features

It seems significant that most rectal strictures are seen in the lower strata of society. Negroes are affected much more frequently than whites, and females seem to be especially susceptible to stricture formation. It is a remarkable fact that a large majority of these patients are young negro women in whom, as a class, the incidence of the common venereal diseases is high. Most reported studies

are from charity clinics and, in this country, are most abundant from those clinics caring for a large percentage of negroes.

Lymphopathia Venerea is thought to be a specific infection transmitted by sexual contact. In the male, the primary lesion is usually on the external genitals and may vary in size and appearance. It may be nodular, papular, herpetiform, or an intraurethral erosion. In 47 cases, Hellerstrom noted that the majority of the lesions were either erosions or superficial ulcers. The lesion is not painful and may go unnoticed. The incubation period varies from a few days to three weeks.

Ten days to six weeks after the appearance of the primary lesion, inguinal involvement may occur. This is characterized by discrete, firm and relatively painless inflamed lymph-nodes. As the adenitis and periadenitis progress, the affected nodes become matted together and tender. Suppuration follows, in the form of multiple small abscesses rather than a solitary collection of pus. For this reason fluctuation is seldom observed. The pus may discharge through one or many fistulous tracts.

Constitutional symptoms are not seen during the incubation period. However, with the onset of inguinal adenitis, there may be symptoms varying in intensity from general malaise to high fever (105° F.). The blood picture is not remarkable: there may be an occasional leukocytosis or increase in the monocyte count. Anorexia, emaciation, general weakness and low-grade fever are often seen. Erythema nodosum and polyarthritic symptoms occur occasionally.

The above descriptions apply, in the main, to males affected with the inguinal form of the disease and to the small proportion of women who show inguinal involvement. Superficial lymphadenopathy is rare in the female. Only in recent years has it been recognized that certain vulval ulcerations

(esthiomene), elephantiasis of the vulva, suppurating anal lesions, rectovaginal fistulas and inflammatory rectal strictures may be due to *lymphopathia venerea*.

The Anorectal Syndrome

De Wolf and Van Cleve, in 1932, reported 3 cases of rectal stricture due to *lymphopathia venerea*. H. N. Cole, in 1933, reported a series of 15 cases. My series of 20 cases, reported in 1934 ("Transactions American Proctologic Society"), the largest on record at that time, was divided into three distinct groups:

1.—*Anorectitis* included 3 cases (15 percent) and is characterized by diffuse inflammation of the lower rectum and anus. Ulcers, abscess or fistula may be present; the tissues often have a rat-eaten appearance. The sphincters are usually spastic and pain may be severe. A thin, purulent discharge is usually present. The middle and upper portion of the rectum show no changes.

2.—*Proctitis obliterans* (prestenotic) was observed in 5 cases (25 percent). It begins as a granular proctitis and gradually involves the entire rectal wall, which becomes thick and leathery. Large areas of ulceration, with profuse purulent or sanguinopurulent discharge, are the rule. Progressive infiltration and fibrosis of the rectal wall eventually produce a stricture.

3.—*Fibrous Stricture* of the rectum occurred in 11 cases (55 percent) and represents the advanced stage of dense, stenosing, cicatricial contraction, either tubular or annular. The stricture usually begins from 1 to 2 cm. above the anorectal line and extends upward 2 to 10 cm. In 7 colostomized patients, during preliminary abdominal exploration, I found no stricture to extend above the peritoneal reflection. Anorectal inflammation, abscesses and fistulas are frequently associated with stricture. Rectovaginal fistula is conspicuous as a complication, occurring in 7 of 17 females (41 percent) in my series.

The contagion apparently has a predilection for the lymphatics and spreads along them. In men the lymphatic drainage is through the inguinal glands and these become infected, forming the lymphogranulomatous bubo. In women, however, the lymph flow from the vulva and vagina is backward and carries the virus into the rectal and perirectal lymphatics, thus producing the anorectal syndrome.

Etiology

Because rectal stricture is frequently associated with the common venereal diseases, it was thought for many years to be caused by them. Most textbooks state that syphilis or gonorrhea are usually responsible for inflammatory strictures of the rectum, but recent clinical studies have shown this to be erroneous.

Syphilis and gonorrhea can be excluded for several reasons. More than half (55 percent) of my patients had negative blood Wassermann reactions and presented no clinical evidence of syphilis. Microscopic study of biopsy specimens from 8 patients showed nothing suggestive of luetic or gonorrheal inflammation. In fact, the microscopic picture of the rectal lesion is practically identical with that of the affected inguinal lymphatics. W. B. Hamilton and I made careful bacteriologic studies of pus from the rectums of several patients and found no gonococci.

I have seen no reason to suspect tuberculosis as a cause of this condition. None of my patients gave evidence of clinically active tuberculosis. Histopathologic study did not suggest this disease. No tubercle bacilli could be found in smears taken from rectums and fistulas.

It has been demonstrated beyond reasonable doubt that benign rectal stricture is but a phase of the clinical entity, *lymphopathia venerea*.

Cutaneous Allergy

Wilhelm Frei, in 1925, reported the intradermal test, now known by his name, for lymphogranuloma inguinale (*lymphopathia venerea*). The antigen used in this test is essentially a suspension of pus, obtained from a lymphogranulomatous bubo, in ten parts of physiologic salt solution. He found that 0.1 cc. of this antigen, injected intradermally, produces a characteristic skin reaction in patients who have *lymphopathia venerea*. This reaction does not occur with antigens made from other materials nor do patients with conditions other than *lymphopathia venerea* react to the Frei antigen. This test has proved to be truly specific and is the only constant accessory clinical finding in *lymphopathia venerea*.

Treatment

The treatment of rectal stricture is as yet unsatisfactory. Clemmons has shown that the intense cold of carbon dioxide snow, applied by special apparatus, has a softening effect on the fibrous tissue and makes it somewhat stretchable. It seems odd that artificial heat, as produced by medical diathermy, has the same effect, though perhaps to a less degree.

Antimony and potassium tartrate has been given intravenously, without encouraging results.

The therapeutic use of the Frei antigen probably offers the best hope of amelioration. In my hands it has been the only agent to influence the course of the disease favorably but, even then, it is not always satisfactory.

Surgery is required frequently. Internal proctotomy is sometimes of value, especially

in annular strictures. External proctotomy (Jelks operation), when properly done, will increase the caliber of the rectum, but, unfortunately, even with the diligent use of dilators and bougies, contraction and stenosis often reappear.

Colostomy will be required in a large percentage of patients (45 percent in my series), even after great effort has been made

to avoid it. The immediate and striking improvement these patients show after colostomy is remarkable and speaks well for the operation. When colostomy is done it should be of the double-barrel, temporary type, so that, if the stricture is later resected, the continuity of the bowel may be reestablished.

271 W. Short St.

NOTES AND ABSTRACTS

Anomalies of the Colon*

KANTOR reports a series of approximately 2,000 consecutive cases in which the colon form and function was observed roentgenologically. This series constitutes a part of a basic group of approximately 4,000 private patients complaining of various digestive symptoms, thus furnishing a homogeneous background for the conclusions presented.

The redundant colon (dolichocolon) was present in 18 percent of cases. Its chief clinical aspects are its occurrence in all builds and both sexes, and its association with marked constipation and, less often, with pain and gas.

Non-rotation of the colon is rare, being present in only about 0.2 percent of cases. It is often a manifestation of non-rotation of the entire intestinal tract, in which case it is associated with mesenterium commune. In the majority of cases the condition seems to be asymptomatic.

High cecum (hypodescent of the cecum) occurred in 6 percent of cases. Its chief clinical aspects are its occurrence in eupeptic, sthenic males, and the ectopic position and increased tendency to inflammation of the appendix.

Low cecum (hyperdescent of the cecum) occurred in 18 percent of cases. Its chief clinical aspects are its occurrence in asthenic women and its association with headaches and vomiting, and discomfort in the right lower quadrant.

Hypofixation (excessive mobility) of the proximal (ceco-) colon occurred in 4 percent of cases. It is associated with the sthenic habitus and high cecum, and is a prerequisite for volvulus and intussusception. Hypofixation of the hepatic flexure alone is associated with right lower quadrant pain and tenderness. Hypofixation of the cecum alone is associated with increased colonic irritability.

Hyperfixation (excessive fixation) of the proximal (ceco-) colon occurred in 20 percent of cases. It is associated with low cecums, duodenal bands and colonic irritability. Hyperfixation of the hepatic flexure alone is

associated with colonic irritability. Hyperfixation of the cecum alone is apparently asymptomatic.

The general tendency seems to be for the body as a whole to compensate for the presence of an anomaly. Hence symptoms do not occur unless this compensatory mechanism breaks down. Surgical therapy is not indicated in the great majority of colon anomalies: this form of treatment should be reserved for instances of actual intestinal obstruction. In most cases, a conservative plan of management, based on the restoration of normal colon function, suffices for the relief of symptoms.

W. A. H.

Hydrochloric Acid in Pruritus Ani

THE patient, appearing at the office with pruritus ani, usually upon examination, is found to have multiple skin or combined skin and mucosal fissures, which are commonly caused by careless or rough handling due to various sorts of toilet tissues or newspapers. Cauterization with silver nitrate and advice as to carefulness suffice to clear it up very shortly.

Rectal causes and allergy are also commonly encountered and corrected, but idiopathic pruritus ani is a rare condition. I have had two such cases in the past two years, which first seemed to have skin fissures and upon treatment got no better. As no other causes could be discovered, I deemed them to be idiopathic pruritus ani.

I had read, about this time, of hydrochloric acid, 1:3,000, being injected subcutaneously, with complete relief of symptoms.

As I have used hydrochloric acid intravenously for several years I knew of the pain it causes if some of it escapes subcutaneously, so I explained to these patients that I believed I could cure their pruritus, but the cure would be about as bad as the disease, insofar as there would be considerable burning and pain after I injected the fluid in such an extremely delicate location. Both patients had suffered about enough from the pruritus and were willing to suffer the short burning from the acid in order to be relieved of the pruritus.

*Radiology, Dec., 1934.

I injected, radially, 1 cc. up to and a bit under the mucoco-cutaneous junction, using 5 cc. of a 1:1,500 solution of hydrochloric acid in the first case, with complete relief of symptoms for the past eighteen months.

In the second case I injected about 1.5 cc., radially, as before, using 1:1,000 hydrochloric acid, with same results for a year, to date.

In the next case I encounter I shall use a 1:500 solution, as this solution is now put up in 30 cc. sterile ampule-vials, with procaine as an anesthetic, and I am quite sure will now insure a painless procedure.

T. H. MADAY, M.D.

Chicago, Ill.

[This is a simplified modification of the procedure recommended by Dr. Granville Hanes, of Louisville, several years ago. Dr. Burr Ferguson, of Birmingham, Ala., says that the same results can be obtained by giving the hydrochloric acid intravenously. We shall be glad to see further comments.—Ed.]

Recto-Colonic Disease*

JELKS emphasizes that modern methods of living and diet lower the body resistance. Then foci of infection develop, principally in the mouth, throat, nose and sinuses. From these foci, the infectious microorganisms are carried down through the alimentary tract, setting up disease processes en route.

Few patients suffer colon or rectal disease that cannot be traced to some septic infection higher up. Hemorrhoids begin with infection in the crypts of Morgagni. The surrounding veins become infected, congested and dilated. There is no rational treatment for this condition but excision of the diseased structures.

If one has a perirectal abscess, one has a fistula already, because most cases begin with an infected crypt. That crypt is most often found in a posterior quadrant. If the abscess is opened properly, with a broad incision, which must uncover the entire cavity, few cases will require a second operation.

Not only the *Entameba histolytica*, but a half-dozen other types of protozoa are commonly found in the intestinal tract and are responsible for many obscure conditions. In one Memphis hospital, ten percent of appendices contain either protozoa or pin worms.

W. A. H.

Sour Milk Enemas in Ulcerative Colitis

INSTEAD of trying to implant the acidophilus bacillus in the colon by the circuitous route of giving tablets or drinks by mouth, Linthicum, of Baltimore, has been ex-

perimenting with sour milk enemas in the treatment of ulcerative colitis.

The Doctor writes that as yet it is too early to evaluate the results. He would like to have others try the treatment and report. If some of our readers will give it a thorough tryout in this condition and report to this Department, I will be glad to relay the reports to the profession and to Dr. Linthicum.

W. A. HINCKLE, M.D.

Peoria, Ill.

A Two-Stage Operation for Fistula in Ano*

FOR large and complicated fistula-in-ano, where a one-stage operation would permit too much gapping of the wound, with separation of the severed ends of the sphincter, Allen and Haskell advise a two-stage operation.

After injecting the tract with methylene blue and peroxide solution, a grooved director is introduced through the external opening and passed through the tract up to the muscle coat or as far as it will go with ease. The overlying tissues are then incised and the tract dissected up to, but not through, the muscle coat. A flexible probe is then passed through the internal opening outward into the incision and bent so as to remain in place. After removing the tract from its internal attachment to the muscle, a double strand of heavy silk is carried through the opening by means of the probe and brought out of the anal canal. The skin and mucosa adjacent to the muscle are incised and the silk tied loosely about the intervening tissues, leaving the ends long.

The wound is packed and allowed to remain so for 72 hours. It is then repacked lightly every day or two for two or three weeks, when the packing is omitted entirely.

The silk thread keeps the newly-formed tract close to the sphincter and prevents it from healing, but permits the out-lying portion of the incision to heal. After the wound has filled in up to the thread, only a short, straight fistula remains. The scar then gives firm support and prevents undue separation of the sphincter ends when they are severed at the second operation. This incision is done under local anesthesia and the tract curetted. After this, healing is rapid and there is little discomfort or disability. The use of the silk thread is necessary to successful results. It prevents healing at the point where the fistula should be kept open, but permits healing elsewhere.

The authors have operated upon 119 patients by this method, with satisfactory results and normal control in all cases.

W. A. H.

*J. Kansas M. S., Oct., 1934.

*Surg., Gyn. and Obstet., March, 1934.

A LIVING FOR THE DOCTOR

(The BUSINESS of Medicine)

How to Avoid Malpractice Suits

By I. S. Trostler, M.D., F.A.C.R., F.A.C.P., Chicago

IT is about as easy to offer advice on how to keep from being sued for malpractice as it is to give advice on how to live a long time. The advice may be sound and appear to be good and helpful, but it cannot by any means assure the desired result. So many people insist upon defying all sensible regulations concerning health and hygiene, and still again old age, that many are prone to wonder whether careful and abstemious living has any effect at all. Likewise, some physicians will take long chances and utterly disregard the ordinary means of prevention, and never be sued for malpractice.

But, even in the presence of these seeming incongruities, I am of the opinion that "An ounce of prevention is worth a pound of cure," and will therefore offer these recommendations, which if heeded, should go far toward reducing the ever-increasing tide of malpractice litigation.

1:—*Do not deserve to be sued.* Conduct your practice so as not to deserve to be sued. Give wholehearted attention to your work and devote your best efforts to the performance of your duties to your patients. If you do this, you probably will not be sued; but, as is well known, you cannot be certain to avoid trouble with some patients, no matter what you do or how careful you are. For these reasons, if you have any early indications that your patient is of a contentious or litigatory tendency, you will be wise if you immediately terminate your relations with him as easily as possible.

2:—*Diagnostic care.* Be careful in regard to your diagnosis, and when there is any doubt refrain from "affixing a label." Make sure before you decide upon a definite diagnosis. Study, weigh and consider every detail of the history, onset, symptoms, prevailing epidemics and all other possible elements which might modify the diagnosis. Use serum reactions, blood tests, bacteriologic, pathologic and microscopic examinations, when in question, and the x-rays when advisable. And last but by no means least, if there remains any doubt or question as to the diagnosis, call consultation. When calling a consultant, select one who knows more about the subject than you

do, be he a surgeon or other specialist. Do not think that these are the only conditions when it is wise to call a consultant, because that is far from the fact.

3:—*Prognosis.* Be extremely cautious as regards prognosis. Prognostic errors, even though they may have been based upon the soundest of reasoning and carefully weighed indications, are apt to lead to unpleasantness and not infrequently to malpractice litigation. *Never, under any circumstances, promise a cure*, nor use language which might be construed so as to promise a cure, and make the patient, or the ones responsible for him, understand that no method of treatment or therapeutic measure can offer a 100 percent sure cure. Agree to do your best. Be scrupulously honest and sincere in the treatment and advice to every patient, whether the illness be slight or severe, acute or chronic and whether you are the first or the fifteenth physician called in the case.

4:—*Are you competent?* Before deciding or consenting to treat, operate upon or otherwise render medical services to any patient, decide for yourself whether you are fully competent to handle the case in the most approved manner and to the best advantage of the patient. If you are not entirely satisfied as to this, ask some well prepared associate, in whom you can place implicit confidence, to assist you. Advise with him and be guided by his advice.

5:—*Surgery.* In all surgical cases, carefully consider whether a surgical operation is absolutely necessary or advisable. If operation is advisable, is it best that it be performed now or will it be better or safer to wait a few hours, days or weeks? Is it best to operate now? Is it an emergency? Is a radical operation indicated? May radical operation be curative? May a less radical operative procedure be safer for the patient? What would the best surgeon you know do in this case?

Of course, all proper asepsis and sterility are taken for granted, but even so, these should be watched. If unfamiliar with the hospital or surroundings, arrange that a careful count of all sponges is maintained all the time, and be sure that the correctness of the

count is verified before closing the incision. See that a record of this is made on the history sheet.

6:—*Anesthesia and anesthetics.* Be as careful in the choice of anesthetists and anesthetics as if you were to be the one who is to be put to sleep. While modern ethylene anesthesia is pleasant and safe, we know that some anesthetics are preferable under some conditions and circumstances and not in others. Likewise, a careful study as to the preanesthetic medication, elimination, etc., should be made. Inquiry regarding the existence of idiosyncrasy for certain drugs is advisable. Preparation of the patient also justifies inquiry and attention. It is seldom, if ever, advisable to trust to routine in this particular.

7:—*Care regarding instruments, etc.* Whether the patients be treated surgically, medically or physiotherapeutically, be certain that all instruments, apparatus and appliances are in proper working condition and of as late and modern design as is practicable in the premises. This should apply, not only to instruments, but also to tables, chairs, lights and other appurtenances. Breakable instruments, such as hypodermic and suturing needles, should be most carefully selected and kept in good condition.

8:—*Records.* Make it an invariable and unchangeable rule to keep careful and complete records of every case, and make these records at the time the service is rendered or immediately thereafter. Apply this rule, not only to office procedures, but also to the recording of all important particulars relative to examinations, histories, treatments, prescriptions and their refills, future appointments, diagnosis and prognosis, amount of fee agreed upon and how it is to be paid, the presence of witnesses, operations and the postoperative care.

It is best to have the patient, or if a minor the natural guardian, give consent *in writing*, if an operation is to be performed. In the absence of this, verbal consent, *in the presence of a witness*, should be included in the records of every case.

If the condition or disease to be treated requires or is liable to require unusual or extraordinary methods of treatment, you should have consent to do this, *in writing or before a witness.*

If the patient, for any reason, insists upon leaving the hospital or discontinuing the treatment contrary to your instructions, be sure to secure a written statement admitting these facts and releasing all concerned from liability; and when, for any reason, you have to relinquish a case to some other physician, see that the patient is fully cognizant of the situation and aware that the change is to be made. Have a written acknowledgment of this whenever it is possible.

9:—*Radiology.* Overdoses of radiation, most frequently x-rays, are a far too frequent cause of malpractice litigation. The use of fluoroscopy in the adjustment of fractures and the removal of foreign bodies has furnished many a lawyer with an opportunity to write an outlandish bill of particulars. Let it be understood that the use of the x-rays in a proper and safe manner requires special training and preparation. Proper knowledge of dosage requires much more than a knowledge of how to throw the switches, statements of the advertisers and manufacturers to the contrary notwithstanding.

No patient should be exposed to the x-rays without a previous examination of the skin of the area to be exposed, and even if no evidence of previous irradiation is discernible, inquiry should be made as to whether any recent x-ray exposure has been made.

Due consideration of the patient's complexion, age and other items affecting sensitivity to radiation should always be noted. Apparatus should be known to be in good working condition, and all high-tension wires should be out of the reach of all persons. Filters should be in place.

All users of the x-rays should know what the erythema dose of each type of radiation is, what it will do and how to control the apparatus so as not to exceed the dose and effect desired. Above all, do not attempt to use roentgenotherapy without adequate training and preparation.

10:—*Professional courtesy.* Be courteous to your fellow physicians. Treat your medical colleagues and competitors as you would have them treat you. *Never* allow yourself to be led into criticising other ethical physicians, and be extremely careful when discussing the diagnosis or treatment of patients by them.

If you take over a case from another physician, be scrupulously careful not to criticise your predecessor in the presence of the patient, his family or his friends. Do not, under these or any other circumstances, say that his treatment was wrong and should be changed. You can easily say that the patient's condition has changed and now requires somewhat different methods or medicine. Unthinking remarks of physicians regarding other physicians, have far too often made real or apparent cause for malpractice suits, and are liable to do so again.

11:—*Keep up to date.* Even though you may have been in general practice for thirty or forty years, do not allow yourself to become a back number. Subscribe to and read the best medical magazines. Buy and read recent books. Belong to and attend the meetings of your local, state and national medical societies. Take part in the discussion of papers.

Prepare papers upon subjects in which you are interested, even though you never read them before any medical body.

12:—*Fees.* Collect your fees when they are due and do not wait too long before presenting bills for your services. People who have paid their physicians are the ones who brag most about what a good doctor they have. People who have a receipted bill for medical services are always better satisfied than are those who have received notice from a collection agency regarding a bill from a physician. Generally, the older the account and the longer payment is delayed, the more things that were unsatisfactory are remembered about the way the doctor did or did not do things. It is a well recognized fact that a large number of malpractice suits are started because physicians try to force payment of their fees from delinquent patients.

Incidentally, it may be well to remember that the limitation for malpractice, as a tort, is two years in most states; while book accounts are not outlawed in most states in less than five years.

13:—*Do not become nervous.* If it becomes evident that things have gone wrong, that an error has been committed or that some unlooked for result has occurred, do not become

excited or panicky. Above all, do not inform the patient, his family or his friends that an error has been committed. It is not necessary to lie, falsify or misrepresent the condition; but it is easy to evade direct replies to questions, until you are able to determine exactly how serious or damaging the end-results are going to be.

While the foregoing recommendations may sound simple and elementary, they are, none-the-less, fundamental and basic. They do not by any means cover the entire subject; but I do not hesitate to say that, with anything like a moderate effort to observe the salient features of these recommendations, and reasonably good reputations as citizens of the community where we reside and practice, none of us need expect to be haled into court for malpractice.

Certainly, if we do not make any attempt to observe all of the items mentioned in these recommendations, we may expect to be sued almost any time; in fact, we may deserve to have a subpoena, citation or notice of suit in some form, handed to us by a process server almost any day.

25 E. Washington St.

NOTES AND ABSTRACTS

The Right of Priority

IN a profession such as that of medicine, in which the commercial and advertising element is strictly limited within so-called ethical bounds by fixed codes, there are very few legitimate means by which a man can make known his special ability and talents. Newspaper publicity is largely out of the question; the use of printed cards and pamphlets proclaiming to the public his chosen line of exploitation is denied him; nor can he use the radio for the same obnoxious advertisement.

He can make use of the professional journals for the publishing of experimental research work along certain definite lines of investigation; for announcing the clinical results of his practice; or for describing and illustrating new methods and mechanical devices for combating disease. He can join in public health discussions of vital problems in which the purely personal equation is eliminated; and under certain strictly limited qualifications he can write an occasional lay magazine or journal article on a subject of popular interest, again submerging his professional personality so that he cannot be accused of soliciting patronage by insidious advertising. The success of his work, clinically or as a teacher of some practical medical or surgical subject; the well-earned commendations and recommendations of his grateful

patients and admiring friends and companions; the oral and published endorsement by his students—all these are legitimate ways by which a medical man attains professional pre-eminence and monetary compensation for his labors.

Despite these obvious limitations, the ethical scientific doctors push on valiantly in their truly utilitarian and philanthropic labors for the amelioration of disease and the improvement of the public health. Now and then their efforts are rewarded by the discovery of a new and valuable method of treatment of a disease, or by the devising of an ingenious surgical procedure which comprises a real advance in technic. Such a discovery often is epochal in nature, and naturally the fortunate doctor is desirous that the credit for the advance should be given to him to whom it rightly belongs. Hence, preliminary reports of his work are published in accredited medical journals, solely for the purpose of establishing priority; and these are subsequently followed by more detailed accounts of the method of treatment or of the surgical technic which he has devised.

It frequently happens that the new idea has occurred almost simultaneously to two or more men in remote sections of the country or in different countries, and then arises the difficult and delicate question as to which one

belongs the right of priority. At times these men rightly share in the honor, the contribution being known by their conjoined names. However, owing to the vast number of medical journals, and the inability of the average man to read or even see all these publications, it not infrequently happens that the credit for the priority of discovery is attributed wrongly, but unintentionally so, to one who does not rightly deserve this reward. Sooner or later, however, this error is corrected by other writers and investigators, and just recognition of the right of priority is established.

There is, however, a despicable, though happily limited, group of men who assume the rôle of professional pirates. By every possible means they attempt to usurp honors which are not rightly theirs, trusting to the ignorance of the general professional public to help them get away with the deception. Often, for a period, they succeed in their nefarious efforts. There are numerous instances in which a method of treatment, a surgical technic or a mechanical device is wrongly attributed to one who has no legitimate claim to the discovery. Such an error may seemingly be established for a long time. But "Truth crushed to earth shall rise again," and in the fullness of time the error is discerned, the priority established, and the right vindicated.

Often it is the privilege of medical editors and careful scientific investigators to discover and correct these mistakes. A thorough search of the literature by scientific or literary delvers, who are preparing comprehensive presentations of the history, evolution and development of certain lines of investigations, is frequently responsible for the discovery of errors in priority, and to the credit of these men be it said, they do not hesitate to note and correct the mistake that has been made. The publication of the result of their labors is the final step, and the priority is established; it may be years or even decades after a misconception has been innocently held.

It is often the sheer carelessness of the inventors or discoverers themselves, in not putting into print, or other record, a brief preliminary note which is responsible for the mistake in priority; but even here conscientious scientific men gladly admit the right of these men to the claim of priority, when the error is discovered, and voluntarily note the fact. Thus, the slow progress of truth goes on, but the records of history are eventually corrected and revised for all time.

W. A. NEWMAN DORLAND, M.D., F.A.C.S.
Chicago, Ill.

A Dangerous Man

A REPORT comes from Missouri that a minister, "who believes that God helps those who help themselves," has persuaded several hundred persons to go off the relief rolls and engage in a cooperative enterprise of raising and canning fruit and vegetables.

Such men are clearly dangerous in any community. They would favor private initiative, foresight, and pride in one's own achievements. They would even lessen taxes by removing persons from relief who would also pay taxes on their cooperative property.

That sort of a leader is dangerous to the present preferred system of gimme, gimme, now so strongly established in social life. If he is not promptly suppressed Americans may again become self-reliant and prefer work to charity.

The social security bill of congress ought to provide for the imprisonment of any who prefer wages to doles. They are rapidly becoming "back numbers."—*Dallas Morning News*.

BOOKS

Buehler: Socialized Medicine

FREE MEDICAL CARE (SOCIALIZED MEDICINE). By E. C. Buehler, *Director of Forensics, University of Kansas*. New York: Noble and Noble, Publishers, Inc. 1935. Price, \$2.00.

This book was written with no idea in the author's mind other than that of defining, outlining, and furnishing the basis for a source of material, both pro and con, on a debatable subject—socialized medicine. It is announced as a help-book for debaters, and no doubt a book of this type will prove valuable to forensics students who have the time and ability to follow the leads presented by the author, as it contains an extensive bibliography on the subject and numerous articles written by leading men in the medical and social fields.

The volume should also prove interesting to the reader wishing to review both sides of the question and further acquaint himself with the background of the situation, for, in addition to the fifteen reprinted articles giving a fairly well balanced argument for both sides of the problem, there are also chapters outlining twenty-five different forms of socialized medicine now in operation in the United States and Canada, and chapters dealing with the cost of medical care and reports and resolutions made by various medical associations.

VALID IMAGINATION

A vision of a day in which natural sciences and technologies that flow from them are used as servants of a human life, constitutes the imagination that is relevant to our times.—JOHN DEWEY.

THE SEMINAR

"A MONTHLY POSTGRADUATE COURSE"

(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.)

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

Problem No. 9 (Diagnostic and Ethical)

Presented by Dr. M. O. Robertson,
Bedford, Ind.

(See CLIN. MED. & SURG., Sept., 1935, p. 454)

RECAPITULATION: Called in by a lay friend of the patient, I found a man of 50 years, who had had vague abdominal symptoms for several months and a recent attack of acute abdominal pain, with a temperature of 101° F.; pulse, 90; vomiting; moderate abdominal rigidity; and a mass in the right iliac fossa. He had been extensively purged.

I stopped the purgation and all administrations by mouth, and informed the attendant of my action and opinion. He did not agree with me, though the vomiting had ceased next day, and resumed the purgation.

A few days later I was called in consultation. The vomiting was much worse; the mass not palpable, but rigidity still present; other symptoms unchanged. We still did not agree on the diagnosis, but took the patient to a hospital, where he died.

Requirements: (1) What was the probable diagnosis? (2) What should I have done, under the circumstances, on discovering what I believed to be an acute condition which had not been found by the attending physician, and which I felt he was mistreating?

Discussion by Dr. E. C. Junger,
Soldier, Ia.

PROBLEM No. 9 is indeed a problem! While the doctors consult and sidestep and reel out ethical red tape, the patient dies!

We are given no urinary findings, so I take it that there is no kidney lesion; nothing is said of indigestion, bowel fermentation, fatty stools or colitis, therefore we can dismiss duodenal ulcer, typhoid and dysentery or bowel tuberculosis; no mention is made of loss of weight, cachexia or blood in the stool, so we dismiss cancer.

The history of vague abdominal pains means a chronically inflamed appendix, possibly re-

trocecal, or a slow forming of inguinal hernia, the internal ring pinching the omentum or part of the bowel, but not causing total obstruction of the lumen.

Dr. Robertson should have been more frank with this man or family and insisted on surgical intervention, if he believed that was best for the patient. To Hell with ethics when it interferes with the patient's welfare!

I feel that an early laparotomy, draining an abscess or removing adhesions or pinching of the bowel or omentum before gangrene set in, would have saved this life. Even a carcinoma of the cecum could be removed.

I very recently lost a patient because vague abdominal "misery" and constipation were not given any serious attention, and an acute attack of abdominal pain was considered as calling for a cathartic only. The next day I saw the patient, who started vomiting and had a little more pain. Laparotomy showed a gangrenous Meckel's diverticulum and 14 inches of dead bowel, resulting in death in 3 days.

Discussion by Dr. G. M. Russell,
Billings, Mont.

I WOULD want to know in what portion of the abdomen the acute pain first occurred; what was the leukocyte count?

The patient probably had a ruptured appendix, which apparently might have been walled off if purgation had not been continued. This man should have been hospitalized at once and, if the leukocyte count was elevated, operated upon immediately.

A consultant can only advise the physician in charge; he cannot force him to accept and act on the advice, unfortunately, many times, for the patient.

Discussion by Dr. Geo. B. Lake,
Waukegan, Ill.

IT seems almost unbelievable, in this day, that a licensed physician should be guilty of purging a patient who showed such highly suspicious symptoms of involvement of the appendix as were present in this case. If this

sort of thing is at all common, it is no wonder that our appendicitis mortality is shockingly high.

Even without laboratory reports, a tentative diagnosis of abscess of the appendix was justifiable at Dr. Robertson's first call, and the patient should have been taken to a hospital at once. At the consultation call, the evidence suggested that the abscess had ruptured.

When the attending physician informed Dr. Robertson that he had resumed the purgation, it is my opinion that the Doctor would have been justified in stating his opinions to the patient's family and urging that they discharge their attendant and call another. Dr. R. could hardly have taken charge of the case himself, under the circumstances (though perhaps this is "hypocritical etiquette rather than Hippocratic ethics"), but he could have acted as a consultant with the new attendant.

Professional Solution by Dr. Robertson

OPERATION on this patient revealed abscess of the appendix (my diagnosis), which had ruptured. A fecal fistula followed the operation; but even then recovery seemed probable until a lung abscess developed and ended in death.

Though I had no opportunity to have blood-cell counts or other laboratory work done, the clinical history, signs and symptoms appeared to me to be sufficient to make a diagnosis.

In my experience, abscesses of the appendix are more dangerous and more frequently attended by complications than are other similar lesions.

Problem No. 11 (Medical)

Presented by Dr. G. W. Benitz,
Wathena, Kans.

MR. A. B. is 46 years old, married, father of seven living and healthy children. He weighs 145 pounds; has always worked hard as a farmer; smokes a pipe and drinks at times; had an operation for appendicitis 20 years ago, at which time he was said to have had typhoid fever, also.

He complains of attacks, over a period of 20 years, of severe nausea, coming on rather early in the morning, with vomiting of slimy mucus and food eaten at breakfast. At such times he feels that if he could vomit more he would feel better, and encourages emesis with his finger in his throat. The attacks occur from 3 to 5 times a year, mostly in the spring and summer, and come on, sometimes, without reference to the taking of alcoholic liquors. Sometimes there is pain in the occiput.

In these attacks, his pulse is full and strong, at first, but becomes weaker after an hour or two of suffering. The only relief comes from morphine, $\frac{1}{2}$ to $\frac{3}{4}$ grain, or even a grain. Alkalies and bismuth seem to do no good. He is able to return to work after from 2 to 4 days, but may have a second, less severe, attack if he begins work too soon.

Roentgenograms of the kidneys and gall-bladder show no calculi.

Requirements: (1) On the basis of this history, suggest diagnosis and treatment, with reasons; (2) What further information would be needed to make a final diagnosis?

ENDOCERVICITIS

Endocervicitis is usually secondary, but may be primary. Gonorrhea is the most frequent cause of the primary form. The secondary form usually results from an extension upward from the vagina, but may be caused by downward extension from the uterus.

The cervical canal is especially exposed to various forms of infection because of the anatomic relation between the cervix and vagina. Again, the canal usually contains germs, and any alteration in the canal, such as traumatism or congestion, allows the bacteria to gain entrance, multiply rapidly, and become pathogenic.

Owing to the presence of the glandular crypts that afford a lodging place and protection, it is very difficult to destroy an infection.

The internal os uteri offers a barrier to the passage of the germs to the uterine body.

Remember that leukorrhea is often the only complaint. The discharge is thick, clear, and tenacious, like the white of an egg. When the infection is pyogenic, the discharge becomes opaque and creamy in color.

Remember that vaginal examination in endocervicitis reveals a patulous os, the vaginal portion of the cervix swollen, and frequently a laceration, if the patient be a multiparous woman.—GEORGE B. NORBERG, M.D., in "Golden Rules of Gynecology."

CLINICAL NOTES and ABSTRACTS

Injection Treatment of Congenital Hernias

CONGENITAL hernias in infants have been a perplexing problem to the average doctor, in spite of the fact that they are ideally suited to the non-surgical treatment. Little has been written in this field, although the problem is universal. Insurance statistics show that almost all hernias found in the adult are congenital in origin. The sensible thing to do, then, is to treat the infants and thereby make healthy, stalwart workers when they grow up.

The severity of surgery to these delicate bodies, along with the large number of recurrences following this drastic procedure, makes the average physician and surgeon loth to do more than apply a truss, leaving the child sickly and in a precarious condition during the ensuing years. I believe that the evident need for a solution to this problem, and the scarcity of any constructive articles concerning it, warrants the following case report of a method which is undoubtedly a definite aid in caring for this condition. I hope that others who have had good results in this field will also make their reports of any helpful cases, in order that a practical course of procedure may be evolved to aid fellow practitioners throughout the country who are confronted by the same problem.

Case Report

Baby Andy P., Age 10 months; diagnosis, left complete indirect inguinal hernia, extending into the scrotum; history of lobar pneumonia six months previously, with subsequent pronounced mitral insufficiency.

The hernia at times caused convulsions and vomiting after severe crying. The appetite was poor, and the baby was underweight and slept restlessly, often waking up with a start followed by crying. Constipation was pronounced.

Prior to consulting me, this baby had been refused surgery by two doctors, the second of whom had supplied a truss, which was discarded by the mother because the baby's urine and bowel movements, in the diaper, kept it dirty and caused extreme chafing and sores along its entire course.

Digital examination by means of the little finger inserted gently into the inguinal canal revealed a large internal ring with an abnormally thinned margin. Due to the age of

the infant, cooperation was lacking, making even this type of examination precarious.

While the little finger was held in the canal as a guide, the outline of the internal ring was traced on the abdomen with Mercurochrome. Afterwards the margins were defined by introducing a small hypodermic needle dipped in Mercurochrome, intradermally at ten points around this outline, to leave a fairly lasting tattoo as a future guide.

Neo-Plasmoid, of adult strength, was used as the injection solution, starting with 0.25 cc. and gradually increasing the doses to 0.75 cc. per injection.

To facilitate the injections and to eliminate any accidents, such as puncturing the bowel, the baby was given a general anesthetic with each injection. This was easily accomplished by making a small mask out of an office towel, saturating the top with ethyl chloride, and then applying it to the baby's face. The mother then held the mask while I injected.

With the baby relaxed, the margin of the internal ring could easily be palpated along the tattoo markers. The needle was then easily inserted into the margin of the ring and the injection made. Two injections a week were made during the first two weeks, and then one injection a week for four weeks. The baby had no discomfort or after effects from either the anesthetic or the injections.

To obviate the contamination of the truss during musing of the diaper, the pad was removed from the truss and rigidly held in place over the internal ring by means of cross strips of adhesive tape. The truss was then applied over the pad for reinforcement. Thus the truss could be removed and kept clean at home without endangering the treated region. The affixed pad was removed only while the infant was anesthetized and was replaced before he recovered from the ethyl chloride.

The end result was a satisfying firmness on palpation around the internal ring and along the inguinal canal, with no pulsation or bulging at any time, and a year-old baby who was free from its previous complaints.

Conclusions

1.—Congenital hernias are amenable to the injection treatment and should be given more consideration by the profession.

2.—Babies who are poor surgical risks are often excellent non-surgical cases.

3.—A truss is impractical on a baby unless the pad is affixed separately and the truss is used as reinforcement.

4.—An efficient injection course can be given by abdominal palpation and injection, after the landmarks of the ring are definitely outlined.

5.—Neo-Plasmoid is the solution of choice, because no dilutions are necessary on account of age and it can be given with absolute safety. The one-syringe technic is certainly practical in these cases.

RUSSELL A. WINTERS, M.D.

Fort Wayne, Ind.

[The injection treatment of cases like this seems entirely logical and practicable, and this method of dealing with the truss is ingenious. We cannot, however, feel quite certain that the administration of ethyl chloride by the mother is an entirely safe procedure as a routine. More work is needed in this field, and we shall be glad to hear from physicians who have done or are doing it. —Ed.]

Treating Infants with Iron and Copper*

A STUDY was made of 233 infants, 2 to 8 months of age. All premature infants were excluded from this study, and only normal babies were considered. They were divided arbitrarily into three groups: the first acting as a control; the second receiving iron; and the third group receiving both iron and copper.

Those infants receiving iron alone presented an increased percentage of hemoglobin in the blood after the age of three to four months. The addition of iron and copper raised the hemoglobin values to a slightly higher level than in those infants receiving iron alone. In both groups, receiving iron alone or copper and iron, the hemoglobin remained high throughout the course of a severe infection. In those cases in which the hemoglobin value was lower during the infection, it usually rose again during convalescence.

In determining the effect on weight through the addition of iron and copper to the diet, it was discovered that children receiving iron alone weighed slightly less than the controls, and that those receiving copper in addition weighed from 8 to 12 ounces more.

Incidence of infection of the respiratory tract was 9 percent less in the group receiving iron than in the control group, and 13 percent less in the group also receiving copper; and the frequency of the more severe

infections of the respiratory tract was markedly less in the latter group. The frequency of infectious fevers was 9 percent less in the group given iron alone, and 20 percent less in the group given iron and copper, as compared with the control group. Taking the infections as a whole, there was 5 percent less in the group given iron, and 15 percent less in those given copper in addition, as compared to the controls.

The mortality rate was as follows: 14.5 percent in the control group; 11.6 percent in the group receiving iron; and 6.3 percent in the group receiving iron and copper. These figures definitely indicate that the group receiving copper showed an increased resistance to severe infections.

DRS. S. J. USHER, P. N. MACDERMOT,
and E. LOZINSKI.

Montreal, Que.

Evipal Soluble as an Intravenous Anesthetic*

IN February, 1933, Abel imported the first hundred ampules of Evipal into England and in a few weeks we had used it in 100 successful cases. The results of these were published in the *Lancet*, July, 1933, and again on March 10, 1934, on the completion of 1,000 cases. Up to the present we have given over 2,000 anesthetics, using Evipal as a basal or a complete anesthetic.

The use of Evipal Soluble for minor operations requires no previous preparation of the patient, and only the minimum dose, from 2.5 to 5 cc. of a 10-percent solution, should be injected intravenously. The operation should be begun the moment unconsciousness is induced and, as with major operations, we have everything absolutely ready before the operation is begun. With the minimum dose the patient regains consciousness in 2 or 3 minutes. He is allowed to rest on a couch or a chair for from 20 to 30 minutes and is then able to go home. If, however, more than the minimum dose has been injected, a longer period must be allowed for recovery and the patient must be escorted home.

We inject the first 2.5 or 3 cc. fairly quickly (5 to 10 seconds) and then allow a pause of about 30 seconds, which is the normal time for the complete circulation of the blood. At the end of this time consciousness is usually lost. If not, a further 2 to 3 cc. is injected and the minor operation is performed. The patient regains consciousness almost as quickly as he went under.

If the injection is steadily continued after the first 2 or 3 cc. without any pause, a further 3 or 4 cc. will have been injected before unconsciousness supervenes; which means that the patient gets double or more than

*A. J. Dis. Child, March, 1935.

*Cur. Res. in Anesth. and Analg., March-Apr., 1935.

double the minimum dose and unconsciousness lasts for from 10 to 20 minutes; a longer time is needed in the recumbent position for recovery and the patient is more apt to show symptoms of drunkenness, and for a longer period, than if a smaller dose had been used.

In order to insure successful surgery under Evipal, it is imperative that suitable premedication be given. We have found the best and most reliable to be the Hoffman-La Roche preparation containing Omnopon, gr. $\frac{1}{4}$, (40 mg.) and scopolamine, gr. 1/150, (0.4 mg.) for all patients between the ages of 16 and 70 years. Half this dose may be given to a younger or older person.

As a total anesthetic for major operations, we use Evipal Soluble, combined with Omnopon and scopolamine as premedication. The full dose (1.0 Gm. in 10 cc. of sterile water) may be repeated as often as required during the operation. For a strong, healthy young adult, we have often found it necessary to repeat the full dose within a few minutes; but in younger and older patients the repetition is seldom required under 20 to 30 minutes. The maximum number of times we have found it necessary to repeat the injection has been 4, over a period of two hours.

It is our conclusion that it is unwise to mix two barbiturates; accordingly, we deem it inadvisable to give Evipal to patients who have already had other barbiturates as their premedication. It should always be administered with the patient in the dorsal decubitus.

Provided Evipal is not administered single-handed, nor to patients in the upright position, nor to old or feeble subjects, and provided an adequate airway is maintained, we are of the opinion that it has a very large scope in the field of safe and useful anesthesia.

RONALD JARMAN, M.R.C.S., (Eng.) and

A. LAWRENCE ABEL, F.R.C.S., (Eng.).
London, England.

Ice Box for Babies

IN hot countries and localities, premature and sickly babies, especially those suffering from disturbed digestion, heat rashes and the like, do not need more warmth, such as is furnished by an incubator, but less.

On a number of occasions I have treated small infants who were suffering from too much heat by making their beds in one end of a packing box, the other end of which was occupied by two square, five-gallon gasoline cans, with their tops cut out and kept filled with ice. A sheet spread over the top of the box will keep the cool air in and permit the regulation of the temperature, which must be controlled by a thermometer in the box, so that the baby will not become chilled.—J. W. CAMP, M.D., La Habra, Calif., in *Ill. Surg. News*, Apr., 1935.

Treatment of Inoperable Cancer

FOR the past ten years I have used the preparation known as Tekarkin (solution potassium nitrate compound) in clinical cases of internal cancer, or cancer of the viscera. I have never used this treatment in cases of superficial or skin cancers. In all the cases in which I have used it, there was a history of a rapidly approaching crisis, which seemed not to be influenced by the ordinary cancer treatment, had passed the stage for surgical intervention and gave a prognosis that was bad.

In each case the malignant mass was fixed and immovable and the patient was much emaciated, showed progressive anemia with a high leukocyte count and very low hemoglobin, which is the usual cancer picture. Each of these seven cases had been advised that further treatment was of no avail.

The treatment in these 7 cases was 2 cc. of Tekarkin, intramuscularly, daily. By mouth I used Osmo-Calcic solution in ten-drop doses three times a day, alternated daily with ten drops of a solution of manganese and potassium nitrates. I gave the appropriate iron tonic, together with the tolerated dose of milk of magnesia.

The patient was kept at absolute rest, as near as was possible, and given the necessary opiates.

The diet was the most peculiar and interesting part of the therapeutics. All salt and condiments were withheld. For two weeks I kept the patient on no diet except the juice of pears and weak tea. Then for two or three weeks the patient was given only green, fresh vegetables, cut up in a food chopper without salt, and was allowed to eat these freely. The parings of potatoes were thoroughly cooked and the broth drained off and given to the patient, also the broth from well-cooked bran. There are a number of green vegetable salads which the patient may eat freely.

With the necessary tonic and stimulation which is indicated in the case, many of these seemingly hopeless cases recover their health. Three of these seven cases are today enjoying reasonably good health after five years, and the malignant masses have disappeared.

R. O. BAGBY, M.D.

Kansas City, Mo.

Dilaudid in General Practice*

IN minor or major surgery, 1/32 or 1/20 grain of Dilaudid gives complete and persistent relief, and postoperative urinary retention requiring catheterization occurs infrequently. In cystoscopies, 1/20 grain produces a pleasing and effective analgesia. For the pain following the injection of hemorrhoids with sclerosing fluids, the insertion

*Okla. St. M. J., May, 1935.

of a suppository of 1/24 grain of Dilaudid gives relief of pain within a few minutes, lasting five to eight hours. In cough, this drug gives a sedative effect similar to that of heroin, without inhibiting secretions or inducing constipation or drowsiness.

Dilaudid does not depress the respiratory mechanism so profoundly as does morphine, even when it is necessary to give doses which might be considered excessive to patients with cancer suffering excruciating pain. The nauseating and emetic effects of morphine were found to be almost entirely absent. A transient dizziness appeared in one or two patients. In general, the tendency toward undesirable side-actions is much less than with morphine.

CLIFFORD M. BASSETT, M.D.

Cushing, Okla.

The Advertisements are NEWS! Read and use them.

Treatment of Acute and Chronic Brucellosis (Undulant Fever)*

IT is a statistical fact that 9,965 cases of brucellosis were reported in the United States up to Jan. 1, 1935, and that the disease is increasing. Five clinical types have been commonly recognized—intermittent, ambulatory, undulatory, malignant and subclinical—but I find considerable difficulty in classifying under these headings the 100 cases that I have observed.

I know now that, even when the agglutination titer is low or absent, the patient may be a victim of this disease. Since 1932 I have employed a skin test as a confirmatory aid in diagnosis when there was very strong clinical evidence, in the absence of agglutination. This is performed by the injection of from 0.02 to 0.04 cc. of brucella antigen intradermally, using a control.

Vaccine therapy offers the best available method of treatment of both acute and chronic brucellosis (50 percent *Brucella abortus* [bovine] and 50 percent *Brucella abortus* [swine] are used). A maximum dose of 1 cc. was never exceeded in the cases that I have treated. I have used the deltoid muscle as the site for the intramuscular injections. The average number of inoculations was 5.4. In addition to vaccine therapy, all patients received a high-caloric diet, with feedings between meals; this is very important in the handling of patients with prolonged fever.

Brucellosis should be considered as a possible etiologic factor in many cases of so-called *neurasthenia*; it may also be found to be the etiologic factor in many so-called sterile abscesses.

*J. A. M. A., Sept. 21, 1935.

In the 100 cases reported, none are included that have been under observation for less than one year. Two deaths have occurred from a complicating subacute bacterial endocarditis, in which *Brucella* was shown to be the etiologic factor. Short relapses have occurred in 11 percent; 1 case remains unimproved; 5 cases were reported as quiescent at the time of observation, and no vaccine was recommended; 84 cases were observed in hospitals and the average hospital stay was 28 days; readmission was necessary in 8 cases.

FRED E. ANGLE, M.D.

Kansas City, Kans.

Mercurial Diuretics in Cardiac Edema*

BASED on experience with 100 cases in our own practice, we have reached the following conclusions in regard to mercurial diuretics in cardiac edema:

1.—Mercurial diuretics are indicated only in edema originating from cardiac decompensation and should be used only when rest in bed and digitalization have failed to control the edema.

2.—Absolute contraindications are: enteritis, primary nephritis and history of salivation or mercurial sensitization.

3.—Novasural acts better in syphilitic heart disease, but is a dangerous and toxic drug and small test doses should be given at first. Salyrgan should be used as a last measure in all patients other than syphilitics.

4.—Salyrgan is best used intravenously, the first dose 0.5 cc. and subsequent doses of 1 to 2 cc., at 2- to 4-day intervals. If the urinary output is not more than doubled after the second dose, it is useless to give further doses.

5.—The presence of albumin and other abnormal findings in the urine does not contraindicate the use of these drugs, if one is sure the edema is of cardiac origin.

CLYDE M. GILMORE, A.B., MD.

Greensboro, N. C.

Treatment of Peptic Ulcer

FIFTEEN drops of insulin (U20) are mixed with half a teaspoonful of bismuth subcarbonate in two ounces of water, stirred and allowed to stand for half an hour, then stirred again and swallowed slowly thirty minutes before each meal. Two tablets of yeast vitamin B are taken with a little water three times a day after each meal. Every fourth day 1.0 to 1.5 cc. of distilled water is injected intravenously and the body is irradiated generally with ultraviolet rays. If the patient becomes constipated, Carlsbad sprudel salt (one to two grams in eight ounces of hot water) is given, either on an empty stomach one hour before breakfast or at bed-

*South. M. & S., Feb., 1935.

time, or a belladonna derivative (atropine sulphate 1/50 or bellafoline-Sandoz, one or two tablets) is given at bedtime.

My regime is obviously a therapeutic "gun-shot" and may be regarded as unscientific by some, but my only claim for it is empiric eminence. It has given excellent results in patients who were resistant to conventional medical treatment, and in addition permitted them to continue at their work and earn their daily bread.

The reason for according to insulin the place of honor in the therapeutic formula was because elimination of the other procedures reduced the therapeutic efficacy less significantly than did that of insulin.—C. S. DANZER, in *Med. Rec.*, Aug. 21, 1935.

Treatment of Tularemia

FOSHAY has prepared a specific serum from the goat which is effective in treating tularemia in man. As a result, the duration of adenopathy and the period of disability have been significantly and appreciably shortened. Recommendations for dosage in patients with infections of average severity consist of two intravenous injections of 15 cc. each on successive days, of the goat antiserum made from virulent strains of the organism. When the lymph nodes are larger than 5 cm. in diameter three doses may be used. In the typhoid form the antiserum may be used in larger amounts. The general regime is that of an acute infection.

Symptomatic treatment is of great importance—rest in bed, and the ingestion of easily digestible food of a high caloric value are indicated. High fever should be treated by hydrotherapy, abundant water administered and the bowels should be kept open. Stimulants are required. Excision or incision of enlarged glands should not be performed until a pronounced soft, thin area is demonstrable in the skin over the gland.—DRS. G. G. DAVIS, H. A. HANLIN, and T. C. MOUZAKOTIS, in *Indust. Med.*, Mar., 1935.

Treatment of Chorea with Nirvanol*

NIRVANOL is phenylethylhydantoin. It is a drug closely allied with the barbiturates. Chemically it is phenyl-ethyl-aceto-urea. It is formed from a combination of urea, glycollic acid and hydantoin, and consists of colorless needle crystals, with a melting point of 199 to 200 degrees; it is odorless and practically tasteless in water; it dissolves at ordinary temperature in about 165 parts of water, more readily in boiling water (in 110 parts) and even more readily in alcohol (in 20 parts).

At first the drug was principally used for hypnosis and sedation, especially in epilepsy. Since then, in many other reports, the drug

is regarded as one of the best in the treatment of chorea.

Its mode of action has never been fully explained. The giving of the drug in moderate doses for a period of 7 to 12 days usually produces fever, or a rash, or more generally both, in conjunction with marked drowsiness and somnolence, which clear up in 3 to 5 days after the Nirvanol treatment is stopped, and without giving any other medication.

The syndrome produced by Nirvanol is known as "nirvanol sickness." It is somewhat akin to "serum sickness" and some regard this rash as a cumulative toxic condition. Others believe it is due to an allergic condition or anaphylaxis or to a specific idiosyncratic reaction. According to Dennett and Wetchler "the effects obtained are essentially not hypnotic in character, but due to a specific action, presumably on the corpus striatum in the midbrain, producing a definite reaction on the heat-control mechanism with fever, skin manifestations and characteristic blood changes."

The choreic child, on admission to the ward, is put to bed and observed for several days without any medication. During this time a complete blood study, including blood chemistry, blood pressure, blood calcium and phosphorus, is made. Because of the new surroundings there is usually an increase in the choreiform movements. About the third day Nirvanol is started. To children up to 9 years of age, 5 grains (325 mg.) are given twice daily, and to children above this age, 5 grains 3 times a day. Full diet is continued as long as the child is able to feed himself. A daily differential leukocyte count is quite essential.

About the fifth day a decrease in the leukocytes is noticed, with an increase in the lymphocytes and eosinophiles. The lowest count was 3,200 leukocytes, with 62 percent lymphocytes and 13 percent eosinophiles. The Nirvanol is continued until there is fever or until the beginning of the rash. Drowsiness begins about the fourth day of treatment and the children gradually become more stuporous, so that at the time the drug is stopped they have to be fed by the nurse. The amount of the drug given varies with the individual, but on an average it is continued for from 7 to 10 days.

If there is no fever nor rash by the twelfth day of treatment, the drug is discontinued. The smallest dose required was 60 grs. (4.0 Gm.) and the largest 165 grs. (11.0 Gm.). The temperature suddenly ascends to 103° to 105° Fahrenheit about the seventh or eighth day and the drug is stopped at this time. The fever may remain high for 24 to 48 hours and gradually drop to normal, with a gradual disappearance of the rash and drowsiness. During the height of the treatment there is

**Med. Rec.*, March, 1935.

frequently an exacerbation in the choreiform movements and the speech is of a peculiar slow, drawling type, with much drooling of saliva from the mouth. This all disappears with the withdrawal of the drug; the leukocytes return to normal, as do the lymphocytes and eosinophiles. The choreiform movements become less and less; the child can be out of bed in a week to 10 days after administration of the drug is stopped, and usually returns home in another week.

In the peroral treatment of chorea, Nirvanol, although not specific, gives better results than any other drug.

Recurrences are much less frequent than with any other drugs used.

Neither harmful effects nor any fatalities were observed.

Best results are obtained in the moderately severe and severe cases.

LEONARD F. BENDER, M.D.,
and GERALD E. PRATT, M.D.

Philadelphia, Pa.

Look for FACTS AND COMMENTS among
the advertising pages at the back.

Anginal Symptoms Associated With Constitutional Diseases

IT has been suggested that anoxemia of the myocardium is the fundamental condition underlying angina pectoris.

In the past few years, I have had occasion to see a number of patients whose presenting complaint was typical angina or attacks indistinguishable from it. Further studies of these cases have revealed various constitutional diseases, the adjustment of which has either improved or done away with anginal attacks. This suggests a broader concept than anoxemia as the cause of anginal pain; namely, that the paroxysms occur when the available energy is not equal to the demands made on the myocardium. The energy deficit may be brought about by many causes, such as for example:

- 1.—Reduced coronary flow or "ischemia" of different origins.
- 2.—A relative oxygen deficiency alone, as in anemias.
- 3.—A relative deficiency in available fuel, as in hypoglycemia.
- 4.—An abnormally slow rate of oxidation of fuel to form energy, as in myxedema.

With this broader concept in mind, each patient presenting anginal symptoms should be scrutinized with the utmost care.—DR. C. H. BEACH, Richmond, Va., in *J. A. M. A.*, Sept. 14, 1935.

Plantar Warts, Callosities and Corns

THE best treatment of plantar warts is electrocoagulation. The lesion is anesthetized with Novocaine (procaine) solution, following which the wart is destroyed by the electrical method. One treatment usually suffices.

The treatment of callosities consists, first, in trimming the callus as thin as possible. This is followed by the application of 40-percent salicylic acid plaster. Bichloroacetic acid is an excellent keratin solvent, but must be used with care to avoid any contact with the normal skin. The acid is painted on the callus; the surrounding skin is covered with a protective layer of petrolatum and the callus will shrink and harden. Some days later it is shaved down and the acid reapplied. This procedure is used at five-day or weekly intervals.

Corns may be removed very successfully by the use of the scalpel or by electrocoagulation. A more conservative method consists of softening the corn by frequent soaks in warm water, after which the area is pared with a knife until a punctate hemorrhage appears. This spot is then cauterized with trichloroacetic acid.—JOSEPH J. ELLER, M.D., of New York, in *Am. J. Surg.*, Sept., 1935.

Diet in Gonorrhea*

THE two most important factors in the treatment of gonorrhea are rest and elimination. Elimination and diet must go hand in hand. The better balance of diet, as to alkaline and acid foods, the better elimination, thereby doing away with cathartics that wash the digestive ferments into the large bowel, which is not adapted for digestive purposes.

The diet should be made attractive and fundamentally wholesome. The quantity given should be that which is necessary for adequate nourishment.

The carbohydrate and protein foods should be natural foods, that do not decompose easily, and should make up not over 20 percent of the food taken at each meal.

A deficiency of calcium, phosphorus and vitamins greatly increases the susceptibility to infection. These may be had in the different forms now sold on the market to supply the deficiency.

After the acute stage is passed, then the proteins and carbohydrates in the diet may be increased. This should be done by adding them to the alkaline diet already in force, remembering at all times to keep the acid end of the diet below 20 percent.

DR. GEORGE E. PERKINS.

Boston, Mass.

**Pharm. Adv.*, Vol. XI., No. 128, 1935.

THUMBNAIL THERAPEUTICS

Intravenous Vaccine Therapy in Chronic Arthritis

INTRAVENOUS injections of streptococci can safely be administered to patients. Such injections, in a series of 301 cases, resulted in definite clinical improvement in about 80 percent. The organism used in the vaccine was from a case of acute rheumatic fever, which had been cultured for nine years. The initial dose was 100 million organisms; this was increased by 100 millions at weekly intervals. The intravenous method is indicated rather than the subcutaneous because: (1) the intravenous method does not produce hypersensitivity; and (2) because subcutaneous injections of streptococci produce only a slight degree of protection, while the intravenous results in a high resistance.—**DRS. B. J. CLAWSON AND M. WETHERBY**, in *Ann. Intern. Med.*, June, 1932.

Gynergen in the Puerperium

THE hypodermic injection of 1 cc. of ergotamine tartrate (Gynergen), immediately after the expulsion of the placenta, will maintain a mildly tonic contraction of the uterus longer than will a similar injection of pituitary solution. This effect is sustained by the oral administration of Gynergen during the ensuing three days.—**DR. M. G. DER BRUCKE**, Brooklyn, N. Y., in *J. A. M. A.*, Sept. 14, 1935.

Adrenal Cortex in Hypertension

THE administration of adrenal cortex hormone, in the form of cortin or Eschatin, results in an abrupt drop in the blood pressure, both systolic and diastolic, and in the clearing up of cardiac arrhythmias. No prompt results are obtained in cases presenting generalized arteriosclerosis.—**DR. E. M. JOSEPHSON**, in *Med. Rec.*, Mar. 6, 1935.

Cod-Liver Oil in Burns

COD-LIVER oil is sterile, protective (like other oils) and its high content of vitamins A and D seems to add greatly to its efficiency in the treatment of burns and other skin injuries, especially those about the face, perineum, scrotum and other areas where the tannic acid method is difficult to apply. The oil may be applied as it comes, but is, perhaps, most useful in an ointment with a wax base.—**DRS. LOHR AND TREUSCH**, (abst.) in *J. A. M. A.*, Sept. 22, 1934.

Postoperative Embolism and Phlebitis

TWO concrete measures have a definite effect in preventing postoperative embolism and phlebitis: First is the employment of carbon dioxide and oxygen postoperatively, to force deep respiration, followed after the first 24 hours by routine deep breathing exercises; second is the promotion of the flow of venous blood in the lower extremities and the maintenance of muscle tone by means of active exercise of the muscles of the legs.—**H. A. GAMBLE, M.D., F.A.C.S.**, in *A. J. of Surg.*, Apr., 1935.

Malignant Diphtheria

IN very severe cases of diphtheria, in addition to using antitoxin, we must keep the patient nourished and the heart supported. If vomiting is persistent, stop all feeding by mouth and give equal parts of 5-percent dextrose and physiologic saline solutions, intravenously or subcutaneously; also blood transfusions, if required. For myocardial failure, give 10 mg. of dried digitalis leaf per kilo of body weight, and repeat half this dose every 12 hours.—**DRS. D. C. DARROW AND H. YANNET**, in *A. J. Dis. Child.*, Jan., 1935.

Bismuth by Mouth for Syphilis

WATER-SOLUBLE potassium bismuth tartrate is less toxic and more spirocheticidal than most mercury compounds. Adults can take 0.20 to 0.36 Gm. a day, in capsules or solution, by mouth. It is excellent follow-up treatment during rest periods or when traveling. The oral use of this preparation might well start the treatment of many chronic cases of syphilis.—**DR. JOHN A. KOLMER**, in *Arch. Derm. & Syph.*, Jan., 1935.

Look for **FACTS AND COMMENTS** among the advertising pages at the back.

Migraine

AFTER 45 years of practice as an internist, I have never seen a case of typical migraine that did not have optic defects and consequent eyestrain as a cause. In the majority of cases the headaches will be cured by proper glasses.—**DR. O. T. OSBORNE**, of New Haven, Conn., in *Ann. Intern. Med.*, Nov., 1932.

NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to **CLINICAL MEDICINE AND SURGERY**, Medical & Dental Arts Bldg., Waukegan, Ill., is accompanied by a check for the published price of the book.

Think what a book is. It is a portion of the eternal mind, caught in its process through the world, stamped in an instant, and preserved for eternity. — LORD HOUGHTON.

Zondek: Endocrine Diseases

THE DISEASES OF THE ENDOCRINE GLANDS. By Hermann Zondek, M.D. (Berlin), Director of the Medical Division, Bikur Cholim Hospital, Jerusalem; Late Extraordinary Professor of Medicine in the University of Berlin and Director of the Medical Division of the Krankenhaus Am Urban in Berlin; Late Honorary Physician to the Victoria Memorial Jewish Hospital, Manchester. Third Edition Revised and Enlarged. Translated by Carl Prausnitz, M.D. (Breslau), M.R.C.S. (Eng.), L.R.C.P. (Lond.), Honorary Research Fellow, Victoria University of Manchester; Late Professor of Hygiene and Bacteriology, University of Breslau. Baltimore: William Wood & Company. 1935. Price, \$11.00.

Zondek is well known to those interested in investigations of the functions of the glands of internal secretion. The present book is a modified English translation of the third edition of the same work which appeared in German in 1926, advantage being taken to introduce recent advances in our knowledge of the secretions.

The author's aim was mainly to produce a book suitable for the clinician, and he presents clinical endocrinology as intimately related with and a necessary part of general biology and pathologic physiology. The author is convinced that endocrinology cannot be comprehended apart from general internal medicine, and that neither can internal general medicine be understood apart from endocrinology.

Some of the author's fundamental hypotheses are interwoven with the matters treated and give the work its special significance. Succinctly these are: (1) That hormonal effect is not an absolute but a variable quantity, depending especially upon the physico-chemical condition of the organic cells acted upon; (2) that functional and anatomic changes in endocrine glands should not always be regarded as the cause of disease, but, in many cases, as the reaction of the glands to morbid processes located in other organs; (3) that with phylogenetic evolution and progressive differentiation of cellular functions, the hormone appears on the scene as the intensifier of such functions; (4) that the endocrine system is but one link in the chain of vegetative functions of the organism. These hy-

potheses (and others) are supported by numerous clinical observations cited by the author.

The general impression received from perusal of Dr. Zondek's book is that it puts the clinical aspects of endocrinology on a much firmer basis than formerly and is, in this regard, somewhat epoch-making. It will afford very interesting reading to the scientifically minded physician who wishes to delve into the origins and intricacies of pathologic processes; but it does not greatly advance our knowledge of practical treatment, nor, apparently, is it the author's intention to do so.

The book is well printed, well illustrated and there is a limited list of bibliographical references for each of the 33 chapters.

Pemberton: Arthritis and Rheumatoid Conditions

ARTHRITIS AND RHEUMATOID CONDITIONS. Their Nature and Treatment. By Ralph Pemberton, M.S., M.D., F.A.C.P., Professor of Medicine in the Graduate School of Medicine, University of Pennsylvania; Member of the Council on Physical Therapy of the American Medical Association; Physician to the Abington Memorial and Bryn Mawr Hospitals; Consulting Physician to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases and Chester County Hospital. Second Edition. Illustrated with 69 Engravings and a Colored Plate. Philadelphia: Lea & Febiger. 1935. Price, \$5.50.

The first edition of this work sought to arouse interest in arthritis by presenting a wider "physiologic" concept of the disease, rather than the hitherto uninteresting and unyielding etiologic theories respecting it. The author's purpose was successful, as manifested by the need for an early reprinting, the translation of the book into French and the great advance of interest in arthritis in the medical mind. The second edition seeks to sustain this interest and to make available the large amount of investigational work now being done, as well as the significant advances of the past five years.

The extensive observations of the author and his associates are correlated with the work of others on this subject, and are so

presented to the general practitioner as to give him a wide-angled viewpoint, as well as the basic principles of treatment. The author is of the firm opinion that no single or fixed viewpoint can encompass the rheumatoid problem which, despite the fine achievements of the doctrine of focal infection, is not a disease of the specialist in any branch of surgery. Every effort has been made, therefore, to avoid undue emphasis upon any one phase of treatment, since it is believed that only wide-angled vision can attain any more than sporadic results in any large group of cases. However, every phase of treatment is included and nearly half of the book is devoted to therapeutic principles and methods.

In this second edition more than a hundred pages of new text have been added, making the work a very complete and authoritative study of the whole subject, and a practical guide in a hitherto imperfectly charted field of medicine. It reveals the pathologic background of rheumatoid conditions, covers their etiology and symptomatology very fully and points the way to successful treatment.

The book is excellently printed, illustrated and indexed.

Hertzler: Diseases of the Thyroid Gland

DISEASES OF THE THYROID GLAND. By Arthur E. Hertzler, M.D., Chief Surgeon, Halstead Hospital; Professor of Surgery, University of Kansas. With a Chapter on Hospital Management of Goiter Patients by Victor E. Chesky, M.D., Chief Resident Surgeon, Halstead Hospital. Third Edition, Entirely Rewritten. St. Louis: The C. V. Mosby Company. 1935. Price, \$7.50.

This is the third edition of Dr. Hertzler's book, the first having appeared in 1922. It has been entirely rewritten and expresses the author's personal experience and impressions in dealing with diseases of the thyroid gland.

The work is very valuable from the clinical viewpoint. Dr. Hertzler has had the opportunity of being able to follow the evolution of thyroid disease, especially goiters, over long periods in a large number of patients and to correlate the surgical findings with the clinical observations. The important fact deduced from this experience is that myxedema does not necessarily result from complete thyroidectomies and that, in adults, the surgeon need not hesitate to perform an adequate radical operation, even though this involves the removal of all visible tissue. Another clinical observation is that the disease, goiter, is a continuous process, the normal termination of which is a cardiac death.

In this, as in other publications, Dr. Hertzler shows an independence of thought and investigation, being to a great extent untrammelled by preconceived ideas concerning the subject on which he writes. As a consequence, many of his conclusions will not fit in with ideas currently accepted; but, whether one agrees with the author or not, it must be admitted that his logic, based on facts rather

than theories, is sound and that his book places the surgery of the thyroid gland and its *raison d'être* on a better basis, and shows the necessity for more exact operative technic.

There are sixteen chapters and a large number of excellent original illustrations. The book is one that should be in the library of every general surgeon and internist.

Wechsler: Clinical Neurology

A TEXTBOOK OF CLINICAL NEUROLOGY. With an Introduction to the History of Neurology. By Israel S. Wechsler, M.D., Professor of Clinical Neurology, Columbia University, New York; Attending Neurologist, Neurological Institute and The Montefiore Hospital, New York. Third Edition. Philadelphia and London: W. B. Saunders Company. 1935. Price, \$7.00.

This is the second revision of Dr. Wechsler's textbook of clinical neurology since the publication of the original work in 1927. In the light of riper knowledge, several parts of the text have been rewritten and omissions and additions have been made, as necessary, throughout the whole book. A brief chapter on the history of neurology has been added.

The author's presentation of the subject is based mainly on personal teaching and clinical experience, representing in a great measure an individual approach to bedside neurology. Whenever possible, the various diseases are described in such a way that the clinical signs and symptoms grow out, as it were, of the anatomico-pathologic substratum and are seen to be consequent upon the underlying physiologic disturbance. It is essentially a clinical book.

The general practitioner as well as the specialist should find this textbook an eminently practical one. The typography is excellent and there is a good index.

Heaton: Modern Motherhood

MODERN MOTHERHOOD. A Book of Information on Complete Maternity Care; Prenatal—Delivery—Aftercare. By Claude Edwin Heaton, M.D., F.A.C.S. New York: Farrar & Rinehart, Inc. 1935. Price, \$2.00.

Originality has not been sought in this book, its chief aim being to instruct the pregnant woman in a "doctor to patient" manner.

It sets forth clearly and simply the modern methods of childbearing, preparations for motherhood, ailments of pregnancy and their treatment. Home delivery versus hospital and the after care are fully explained.

The subject is extensively covered, as also are its related topics, such as child spacing, mental hygiene and sterility.

The book has a simple and direct method of answering almost any question a woman might ask, and so supplementing the advice of her family physician. It quiets fears and dispels apprehensions and old superstitions.

There is a chapter on the psychologic aspect and the attitude of the husband. Dr. Heaton

says, "Fatherhood is a necessity for a man; children are not an additive factor in life, but an essential requirement for the fullest development." Again he says, "Expectant parents will be aware that having a baby is a part of the art of life."

This book is practical, for giving information to a woman looking toward motherhood, and physicians can recommend it to their patients with confidence.

M. G. D.

Physician's Accounting System

DR. COLWELL'S DAILY LOG FOR PHYSICIANS. A Brief, Simple, Accurate, Financial Record for Physicians. *Champaign, Illinois: Colwell Publishing Company. 1936. \$6.00.*

The new 1936 Daily Log again comes through with their physicians' annual accounting system. We cannot praise it too highly for its compactness and logical setup. There is no similar system available having all the advantages contained herein. No separate files are necessary for narcotic, obstetric, surgical, inoculation records, etc. Income and disbursements may be quickly determined at any time of the year and at the end figures for income tax and your own information are all set up on the annual summary sheet. Bookkeeping and balances are made so easy that you can keep it yourself or any employee can do so.

The writer has used it for several years and by reviewing the past issues determines the best time for vacations and days he can best afford to be away from business. Also occasional reviews will tell you what you are neglecting. The obstetric lists will call your attention to little patients eligible for diphtheria, pertussis and smallpox immunization. If you really use the log, it will appreciably increase your income.

J. E. F.

International Clinics

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otolaryngology, Rhinology, Laryngology, Hygiene, and other topics of interest. *By Leading Members of the Medical Profession Throughout the World. Edited by Louis Hamman, M.D., Visiting Physician, Johns Hopkins, Baltimore Md. Volumes II and III, Forty-Fifth Series, 1935. Philadelphia: J. B. Lippincott Company. 1935. Price, \$3.00 per volume.*

Among the many articles which will interest the general practitioner in the June, 1935, number of the *International Clinics* are the contribution on prognosis in heart disease by Dr. A. G. Gibson, an English physician of wide experience, and the excellent summary of what is known about pneumoconiosis by Dr. Leroy U. Gardner. Dr. H. A. Singer, of

Chicago, writes a thorough article on diagnosis of perforated peptic ulcer, which is continued in the September number. There are good clinical discussions, by Dr. L. Hamman and Dr. W. W. Hamburger, on heart pain and its distinction from true angina pectoris.

In the September number the articles which seem to be of special clinical interest are "Chronic Benzol Poisoning," by Drs. L. Selling and A. E. Osgood, this type of intoxication being on the increase among industrial workers; "The Clinical Aspects of Arteriosclerotic Heart Disease," by Dr. F. M. Smith; and "The Unsolved Problems of Brain Injury," by Drs. E. P. Lehman and W. H. Parker, in which the literature is thoroughly reviewed.

There are several other articles of distinct clinical value to the surgeon and other specialists in these two issues. All the contributions appear to have been selected to meet the needs of the man in the therapeutic field.

Year Book of Radiology — 1934

THE 1934 YEAR BOOK OF RADIOLOGY.

Diagnosis, Edited by Charles A. Waters, M.D., Associate in Roentgenology, Johns Hopkins University; Assistant Visiting Roentgenologist, Johns Hopkins Hospital. Therapeutics, Edited by Ira I. Kaplan, B.Sc., M.D., Director, Division of Cancer, Department of Hospitals, City of New York; Visiting Radiation Therapist, Bellevue Hospital; Clinical Professor of Surgery, New York University and Bellevue Medical College. Chicago: The Year Book Publishers, Inc. 1935. Price, \$4.50.

As in previous issues, the 1934 Year Book of Radiology is divided into two sections, diagnosis and therapeutics, edited respectively by Dr. C. A. Waters, of the Johns Hopkins Hospital and Dr. I. I. Kaplan, of New York.

The Year Book presents, in abstract form, the important contributions of the year in the American and foreign literature. These abstracts are well made and, with the numerous reproduced illustrations, give the pith of the original articles. Editorial critical comments, when necessary, draw attention to the salient points.

Radiologists should welcome this volume as a really valuable compendium, which summarizes the important advances at home and abroad, and thus saves them much time. The book work is excellent.

International Medical Annual

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index. *Edited by H. Letheby Tidy, M.A., M.D., F.R.C.P.; A. Rendle Short, M.D., B.S., B.Sc., F.R.C.S. 1935, Fifty-Third Year. Baltimore: William Wood and Company. Price, \$6.00.*

This excellent British publication chronicles, year by year, the advances in medicine and surgery as reported in the periodical medical literature of the world. The contributors and editors are men of the highest standing in general medicine, surgery and the

specialties. The various matters reviewed are arranged alphabetically and one gets the impression from looking through the volume that all advances of consequence in the treatment of disease are adequately though concisely presented, with reproductions of illustrations when called for.

The busy general practitioner, especially those away from medical centers, who have neither the time nor the opportunity of keeping in touch with what is new and practical, will find this annual review an excellent means of supplying the deficiency at a moderate cost. There is an ample index.

Kurtzahn: Minor Surgery

KLEINE CHIRURGIE (Minor Surgery). By Professor Dr. Hans Kurtzahn, Koenigsberg, Prussia. Third Revised Edition. 456 Pages with 169 Illustrations and a Colored Chart. Vienna: Urban & Schwarzenberg. 1935. Price, Mk. 22 (bound Mk. 13.50).

For the past six years Kurtzahn's "Minor Surgery" has been regarded as a standard work in German-speaking countries, and while there is no dearth of good books in English, the present volume should nevertheless be studied by all who read medical German, because of its intrinsic value.

The author has inclosed within the frame of his book all cases that can be handled without the facilities of a hospital. In four sections out of twelve, he discusses all types of anesthesia and analgesia, general operative technic and dressings. The remainder of the book deals with injuries, infections, tumors and quite a number of surgical diseases and deformities. The last section will prove of value to all physicians who are called upon to estimate claims for industrial injuries.

G. M. B.

Porges: Intestinal Diseases

DARMKRANKHEITEN. IHRE DIAGNOSE UND THERAPIE IN VIERZEHN KLINISCHEN VORLESUNGEN (Intestinal Diseases. Their Diagnosis and Therapy. In Fourteen Clinical Lectures.) By Prof. Dr. Otto Porges, Director of the II Medical Division of the Child Spital and Research Institute in Vienna. 253 Pages. Vienna: Urban & Schwarzenberg. 1935. Price, carton Mk. 8, bound Mk. 9.

This book fills a gap in the available textbook discussions of intestinal diseases and presents clinical studies in a manner to stimulate diagnostic thinking. For the first time we are given, for example, a clear-cut picture of the differential diagnosis between typhlitis and chronic appendicitis.

The book is intended for more or less experienced practitioners and contains new and practical ideas, which will be helpful to clinicians who read German.

G. M. B.

New Books Received

The following books have been received in this office and will be reviewed in our pages as rapidly as possible.

THE PATHOLOGY OF INTERNAL DISEASES. By William Boyd, M.D., M.R.C.P., etc. 2nd Edition, Thoroughly Revised. Philadelphia: Lea & Febiger. 1935. Price, \$10.00.

FOOD AND BEVERAGE ANALYSIS. By Milton Arlenden Bridges, B.S., M.D., F.A.C.P. Philadelphia: Lea & Febiger. 1935. Price, \$3.50.

STOMACH AND DUODENUM. By George B. Eusterman, M.D., F.A.C.P., and Donald C. Balfour, M.B., M.D. (Tor.), LL.D., etc., and Members of the Staff of The Mayo Clinic and The Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota. Philadelphia: W. B. Saunders Company. 1935. Price, \$10.00.

DISEASES OF THE NOSE AND THROAT FOR PRACTITIONERS AND STUDENTS. By Charles J. Imperatori, M.D., F.A.C.S.; and Herman J. Burman, M.D. Philadelphia: J. B. Lippincott Company. 1935. Price, \$7.00.

DISEASES OF THE SKIN. By Frank Crozer Knowles, M.D. 3rd Edition, Thoroughly Revised. Philadelphia: Lea & Febiger. 1935. Price, \$6.50.

THE TREATMENT OF DIABETES MELITUS. By Elliott P. Joslin, M.D. (Harvard), M.A. (Yale). 5th Edition, Revised and Rewritten. Philadelphia: Lea & Febiger. 1935. Price, \$6.00.

SEXUAL RELATIONS OF MANKIND. By Paolo Mantegazza. Translated from the Latest Italian Edition, as Approved by the Author, by Samuel Putnam. Edited with an Introduction by Victor Robinson, M.D. New York: Eugenics Publishing Company. 1935. Price, \$3.00.

TEXTBOOK OF BACTERIOLOGY. By Thurman B. Rice, A.M., M.D. Philadelphia: W. B. Saunders Company. 1935. Price, \$5.00.

LABORATORY METHODS OF THE UNITED STATES ARMY. Edited by James Stevens Simmons, B.S., M.D., Ph.D., Associate Editor Cleon J. Gentzkow, M.D., Ph.D. 4th Edition. Philadelphia: Lea & Febiger. 1935. Price, \$6.50.

SPANISH INFLUENCE ON THE PROGRESS OF MEDICAL SCIENCE. International Congress of the History of Medicine, Madrid. London, England: The Wellcome Research Institution. 1935.

MECHANICS OF NORMAL AND PATHOLOGICAL LOCOMOTION IN MAN. By Arthur Steindler, M.D., F.A.C.S. Springfield, Illinois: Charles C. Thomas. 1935. Price, \$8.00.

MEDICAL NEWS



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Expert To Supervise Italy's War Sanitation

ITALY numbers among her distinguished sons one of the world's greatest experts in tropical diseases, Sir Aldo Castellani, and has called him home from London, where he has had an extensive Harley Street practice, to be the supreme health consultant in her East African territories.

Dr. Castellani (shown above in his laboratory) was born in Firenze (Florence), Italy, in 1876, and studied at the University in his native city and also at Bonn and the London School of Tropical Medicine. From 1903 to 1915 he was professor of tropical medicine at the Ceylon Medical College, and from 1915 to 1919 at the Royal University of Naples; after which he was visiting lecturer at the London School of Tropical Medicine and director of tropical medicine for the Ross Institute. In 1926 he became professor of tropical medicine at Tulane University, New Orleans, but returned to England a few years later. He is coauthor (with Dr. A. J. Chalmers) of the best known and most satisfactory book on tropical medicine.

Southern Medical Association

THE meeting of the Southern Medical Association will be held this year at St. Louis, Mo., Nov. 19 to 22, inclusive, and (as usual) will be one of the most profitable medical gatherings of the year. Midwesterners are invited to attend as guests, and should not miss this unusual opportunity. For full information and a certificate to get the reduced railroad fare, write to the Secretary, Mr. C. P. Lorz, Empire Building, Birmingham, Alabama.

Noted Ophthalmologist Passes

DR. WILLIAM HAMLIN WILDER, professor emeritus of ophthalmology at Rush Medical College, Chicago, passed to his rest Sept. 24, 1935, at the age of 74 years. Dr. Wilder was a fellow of the American College of Surgeons, past-president of the Academy of Ophthalmology and Otolaryngology and held many other important positions. In May, 1935, he received the Leslie Dana gold medal for contributions to the preservation of sight.

"Cold" Vaccine by Mouth

EVERY year, more people are being immunized against "colds" by means of injections of polyvalent vaccines; but some folks hate to be stuck with a needle.

If Dr. George C. Rockwell, of the University of Cincinnati, is right (as quoted in the *Chicago Tribune* for Oct. 7, 1935), even the sensitive and fearful ones can have their "colds" reduced 50 percent or more by merely swallowing capsules, each containing 25 to 100 billion dead pneumococci; 15 to 100 billion dead streptococci; and 5 billion each of dead influenza and catarrhalis organisms.

The father of this scheme admits that it won't always work, especially for people who work in a bad atmosphere, but even so, if it pans out, it will be one of the big medical discoveries of the generation.

Birth Control

IN my personal experience, I have yet to meet one who is opposed to birth control, and who is married and fertile and poor.—Dr. S. J. KLEEGMAN, in *Trained Nurse & Hosp. Rev.*, Mar., 1935.

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| M-669 | The Illinois Post Graduate Medical School Bulletin. The Illinois Post Graduate Medical School, Inc. | M-828 | Infected Wound Therapy. The Denver Chemical Mfg. Co. |
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- M-858 Menstrual Regulation by Symptomatic Treatment. Martin H. Smith Co.
- M-859 Taxol. Lobica Laboratories.
- M-860 The Improved Hyperol. A Utero-Ovarian Tonic and Corrective. Purdue Frederick Co.
- M-862 Petrolagar. Petrolagar Laboratories, Inc.
- M-863 Treatment of "Athlete's Foot" and Tinea Infections with Phenylmercuric Nitrate Ointment. Associated Physicians Laboratories.
- M-864 An Unparalleled New Bactericide! Chicago Pharmacal Company.
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- M-866 When the Diagnosis is Hemorrhoids. Schering & Glatz, Inc.
- M-867 The Elongated Colon. Wm. R. Warner & Co., Inc.
- M-868 Oral and Local Pyridium Therapy in the Treatment of Genito-Urinary Diseases. Merck & Co., Inc.
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- M-875 Feeding Sick Patients. Knox Gelatine Company.
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- M-879 Curious Features of the Digestive Tract. Reed & Carnrick.
- M-880 Acne Rosacea. Tilden Company.
- M-881 Welch's Grape Juice. Welch Grape Juice Company.
- M-882 Quality Pharmaceuticals. S. E. Massengill Company.
- M-883 Percol, an Effective and Agreeable Treatment for Whooping Cough. Ernst Bischoff Company.
- M-884 Bismarsen. Abbott Laboratories.

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